

*Junior
Co-operative*

VARIETY TESTS

1946

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Published by
Saskatchewan Co-operative Producers Limited

March 1947

JUNIOR CO-OPERATIVE VARIETY TESTS

WHEAT AND BARLEY



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CONTENTS

		Wheat	Barley
	<i>Page</i>	<i>Page</i>	<i>Page</i>
Foreword.....	3	—	—
Introduction.....	4	—	—
Location of Tests.....	5	—	—
Description of Tests.....	5	—	—
Organization and Supervision.....	5	—	—
Facts to be Remembered when Reading and Studying Results.....	7	—	—
Analysis of Data.....	8	—	—
Precipitation Table.....	10	—	—
Description of Varieties.....	—	11	49
Grain Yield	—	11	49
Histograms Showing Yields.....	—	32	50
Days from Sowing to Ripening.....	—	12	51
Height of Plants.....	—	13	50
Straw Strength.....	—	14	51
Neck Strength.....	—	—	52
Weight Per Measured Bushel.....	—	15	52
Commercial Grades.....	—	15	52
Summarization According to Cereal Variety Zones.....	—	16	53
Individual Results by Wheat Pool Districts.....	—	26	56
Conclusions.....	63	—	—
Acknowledgments.....	63	—	—

FOREWORD

**By the President of Saskatchewan Co-operative
Producers Limited**

THIS report contains the results of the twelfth annual variety testing programme conducted by the Saskatchewan Wheat Pool. As in the past the tests have been planned and conducted with a view to supplying information of the utmost benefit to Western farmers.

An interesting feature of the 1946 project is the introduction of Rescue wheat for the first time in Province-wide tests. The test results of this variety, which has been produced in an effort to check the ravages of the sawfly pest, are of special importance to all agriculturists. During the history of the Province, several adverse forces of nature have been successfully combatted by the timely introduction of new wheat varieties. In the early days, the short frost-free growing season on the prairies caused continual anxiety but with the production of Marquis the frost hazard was reduced considerably. In addition, the stem rust infection which at one time spread devastation across the Western plains has been overcome to a great extent. The introduction of Thatcher, Apex, Regent and other rust-resistant varieties has saved our farmers millions of dollars annually. Recently, the ever-increasing losses resulting from the destructive sawfly have led to the development of Rescue. Whilst this variety may not be of equal milling value, and may not equal the splendid records of Marquis or Thatcher, it is a major step toward the successful control of sawfly infestation.

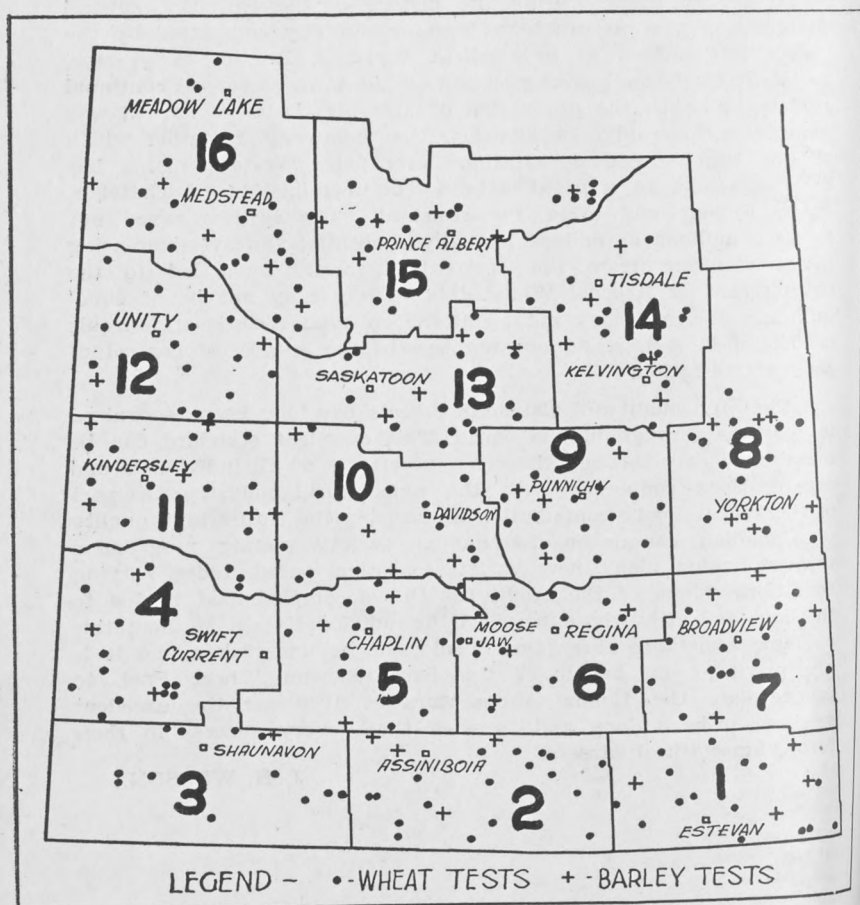
The high quality of Canadian cereals has long been recognized in markets throughout the world. This excellent standard can be maintained only through the constant efforts of all individuals and organizations connected with the agricultural industry. A part of the Wheat Pool's contribution in assuring the future high quality of Canadian cereals is the annual variety testing programme through which many new varieties are compared under varying conditions. Much of the credit for this accomplishment is due to the boys and girls who supervised the individual tests. Without this valuable assistance these tests could not be undertaken and it is my privilege, on behalf of the Saskatchewan Wheat Pool, to congratulate the Junior Co-operators of 1946 for the excellent work they have done and to wish them every success in their future agricultural careers.

J. H. WESSON.

INTRODUCTION

THE variety testing programme conducted by the Saskatchewan Wheat Pool during 1946 consisted of two parts, a widespread wheat variety test and a more limited barley project. Four varieties were selected for use in the wheat test. Thatcher was chosen as the standard variety to which the other selections would be compared. A new strain of Apex was included, together with Rescue and Redman. Rescue was developed as the result of an extensive programme which has been conducted for a number of years, its object being the introduction of a sawfly-resistant bread wheat variety. Its development is of great importance to farmers in the areas of Western Canada where sawflies have caused heavy losses in wheat yields during recent years. Redman was produced at the Dominion Laboratory of Cereal Breeding at Winnipeg, Manitoba. It is resistant to stem rust and has also shown considerable resistance to leaf rust, loose smut and rootrot. The large number of wheat tests conducted in 1946 enabled data to be gathered from a widespread area representing practically every soil type and moisture condition existing throughout the Province.

MAP SHOWING LOCATIONS OF TESTS



The second part of the programme, which was of a more limited nature, consisted of a test with four barley varieties. The production of high quality feed barley is of primary importance in view of the extensive interest in livestock production which exists at the present time. The varieties included in the barley test were Plush, Titan, Tregal and Montcalm. Each of these was tested in 1945 and it is felt that the additional information collected in the past year will be of considerable importance.

LOCATION OF TESTS

The success of a variety testing project depends largely on the widespread distribution of individual tests throughout as many differing soil and climatic conditions as possible.

For administration purposes the Saskatchewan Wheat Pool has divided the Province into 16 districts. (See map, page 4.) Each district is divided into 10 or 11 sub-districts. An endeavour was made to locate at least two tests in each sub-district. By this arrangement it was possible to distribute tests so that results would be representative of the entire Province. This year, some difficulty was experienced, especially in the sub-districts where population is small, in securing the services of the required number of supervisors. However, although some areas are not represented by variety tests, the general distribution has been excellent. Altogether, 231 wheat tests and 65 barley tests were conducted throughout the Province.

DESCRIPTION OF TESTS

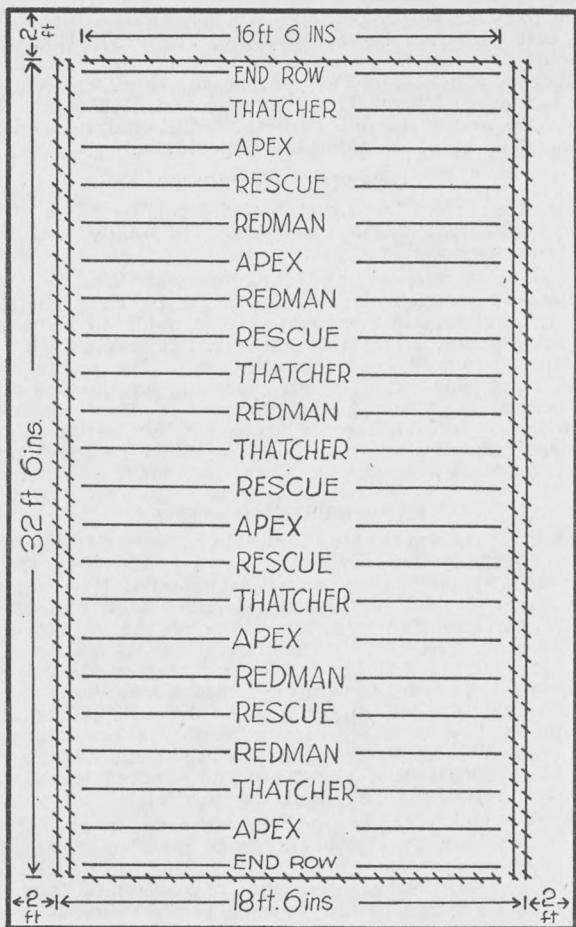
The wheat test this year was sown in a very simple manner. Each test consisted of twenty-two rows, the rows being $16\frac{1}{2}$ feet long. Four varieties were used, each variety being represented five times throughout the test. This made a total of twenty rows. At each end of the test, for protection purposes, a buffer row was sown of the same variety as that used in the end row. The test rows were sown 18 inches apart and the entire project was surrounded by a winter wheat border. A pathway two feet wide was left between the winter wheat border and the surrounding field crop. Each test covered an area $36'6''$ by $22'6''$. The distribution of varieties was planned so that no variety would be sown in two rows side by side. Four randomizations for seeding were used; that is, only once in four tests was the distribution identical. These precautions were taken to ensure precise comparisons throughout the project.

The barley test was planned in a similar manner, except that 62 rows were seeded in each test. This allowed for 20 plots of three rows each and an extra protection row at each end of the entire test. Four varieties were used each variety being represented by five plots distributed at intervals throughout the test. The centre row of each plot was used for test purposes and the row on either side provided protection to the test row. The barley rows were $16\frac{1}{2}$ feet long and were sown at 12-inch spacings. The five plots of each variety were distributed at random so that all varieties would be subject equally to any variations of soil or moisture. As in the wheat project, four randomizations were used. A winter wheat border surrounded the whole test, and a pathway two feet wide was left between the winter wheat and the crop in the field. The entire test covered an area $66'$ by $22'6''$.

ORGANIZATION AND SUPERVISION

As the supervision of a variety test requires great care and accuracy, it was necessary for Wheat Pool delegates to select Junior Co-operators who had outstanding initiative and dependability. The boys and girls who were chosen are to be congratulated for the excellent manner in which they carried out the many tasks essential to the success of the project.

The seed for each test was packaged at Head Office. In order to ensure a correct seeding rate, the amount of grain required for each row was carefully weighed and placed in an envelope which had the name of the variety and the row number stamped on it. A package of seed for each row was placed in a box, together with a small bag of winter wheat for the border rows and 20 wooden stakes to mark the test rows. One such parcel was mailed to each supervisor, together with full instructions explaining in detail the method of seeding the test. This year a rain gauge was supplied to the supervisors and forms were provided for the reporting of daily rainfall to Head Office. A considerable amount of valuable



PLAN OF WHEAT TEST

The crossed lines represent border rows of winter wheat. A two-foot pathway was left between the winter wheat border and the surrounding field crop. The barley test was laid out in a similar manner except that 62 rows were sown instead of 22.

information was obtained by the use of these gauges, and no doubt their continued use will supply much worthwhile precipitation data in connection with many farms throughout the Province.

In order to establish a complete record of the progress of each test, supervisors were asked to make three reports during the growing season. Each report was made on a special form supplied from Head Office and was completed on an individual row basis so that a detailed comparison of the characteristics of each variety could be made.

The First Progress Report supplied information regarding the date of seeding, date when seedlings emerged; cutworm, wireworm and soil-drift damage, and other details. This report dealt with the period of development between seeding and June 15.

The Second Progress Report dealt with the development of the crop from June 15 to July 15, including data such as date of heading, amount of noticeable damage by insects, prevalence of smuts and rusts.

The Final Report dealt with the period of development from July 15 to harvesting. The dates of maturity and harvesting were entered for each

row, average height and straw strength of plants were noted, prevalence of rust and smut were recorded, and damage by birds, insects, shattering and other causes were assessed.

Harvesting instructions were supplied to each co-operator shortly before the grain had ripened. In these instructions special attention was given to such points as the best time to harvest and how harvesting should be done. Care was requested to ensure that the returns from each row were cured properly and parcelled separately in sheets of brown paper. The co-operator was instructed to place the stake which identified the row in each parcel.

The twenty parcels were then to be labelled with the row number and name of the variety and wrapped together. The complete parcel was then delivered to the nearest Pool Elevator agent for shipment to Head Office. On arrival at Regina the sheaves were threshed separately, the grain from each row carefully weighed and the weight recorded in grams. After the sheaves were threshed the yields from the five rows of each variety were placed in one bag and the grain was thoroughly mixed so that a uniform sample could be obtained. This sample was then cleaned, weighed in pounds per measured bushel and graded.

Finally the yield, bushel weight and grade of each variety were entered on a summary sheet, together with the detailed information which the co-operator had supplied in his reports during the growing season.

As has been the case during the past 12 years, the project was planned and supervised by Dr. J. B. Harrington, Professor of Field Husbandry, University of Saskatchewan, Saskatoon. The threshing, calculating and statistical analysis in connection with the work were carried out at Head Office of the Saskatchewan Wheat Pool under the direction and supervision of I. K. Mumford.

FACTS TO BE REMEMBERED IN READING AND STUDYING RESULTS

The information compiled from the results of a test conducted for one year only cannot be used as conclusive evidence in the selection of a variety. Weather conditions vary considerably from year to year, and a variety which gives a favorable performance in any one year may not do well under conditions which exist the following year. In making a choice the farmer is advised to study the results of several years' tests.

In this regard, the pamphlet, "Varieties of Grain Crops for Saskatchewan 1947," is recommended. This pamphlet is compiled by the Saskatchewan Cereal Variety Committee. A copy has been supplied to each Pool Elevator agent for the use of farmers in his district. Additional copies may be obtained free of charge from the University of Saskatchewan, Saskatoon, the Provincial Department of Agriculture, Regina, or Saskatchewan Co-operative Producers Limited, Regina.

Necessary Difference

The statistical term "necessary difference" is used in different parts of the report and an explanation of its meaning is given below.

All of the individual tests have been planned in a mathematical manner in order that (1) they would be fair with all varieties placed as nearly as possible alike; and (2) that they would be sensitive and reveal any varietal superiority which might exist. An approved statistical method has been used in analyzing the grain yield results to determine the difference required between varieties for odds of 19 to 1 that one variety under the conditions of the test and irrespective of soil variation yields more than another. In grain yield analyses of the individual tests, and in the analyses of the different cereal variety zones if the difference between two varieties equals or exceeds the necessary difference it is considered to be important, that is, the higher yielding variety is considered to be significantly higher yielding than the other. In different words, if one variety exceeds another by a difference which equals or exceeds the figure shown as the necessary difference, then the chances are 19 to 1 that notwithstanding any variation in soil which might give a variety an advantage, the higher yielding variety has outyielded the other through its superior yielding ability.

Straw Strength

Straw strength was reported on the basis 10-0. If the plants in a plot were straight and erect the strength of straw was recorded as 10. If the

straw showed signs of weakness the figure 9 was used. The more the plants leaned the smaller the figure that was used so that finally, the straw strength of plants lying flat on the ground was recorded as 0.

Neck Strength

This term appears only in the section of the report dealing with barley tests.

Neck strength was recorded on the basis of 1, 2, 3, where 1 indicated a strong neck holding the head upright, 2 indicated a neck of medium strength, while 3 was used when the neck appeared very weak. Neck strength is, of course, an important characteristic in the evaluation of a barley variety.

Individual Results

The results of individual wheat tests are shown in Table No. 21. The barley results appear in Table No. 34. These are arranged in order, according to Wheat Pool Districts, so that a reader who wishes to compare the results for a particular area may readily locate the tests in which he is interested. For instance, the results of the wheat test conducted by John R. Smith of Calderbank are to be found in Table No. 21. The results show that Thatcher outyielded Apex by 5.8 bushels. The difference of 5.8 bushels between Thatcher and Apex is greater than the necessary difference of 3.2 bushels, thus Thatcher outyielded Apex significantly. After examining the test of John Smith the reader turns to the test conducted in the same sub-district by Henry Unger of Ernfold. In this test Thatcher outyielded Apex by 4.4 bushels. The necessary difference being 1.0 bushel for this test, Thatcher has again outyielded Apex significantly. An examination of some other results in the table, however, shows that varieties do not retain the same relationship throughout the entire Province. In fact, a different relationship of varieties sometimes appears between tests grown relatively close together. This variation may be due to several causes, most important of which are differences in soil type, moisture conditions and date of seeding. The results of a test do give, however, an accurate comparison of the varieties under the conditions which exist on the farm where it is conducted.

Grading Remarks

In determining commercial grades, bushel weight is the most important consideration: However, there are many other factors which may lower the grade of a sample. In the individual results, the column headed "Grading Remarks" contains abbreviations for these factors which inform the reader of any adverse characteristics, other than bushel weight, which appear in the sample of grain.

The following abbreviations have been used to indicate the various defects:

B.P. —Black Point	S.F. —Slightly Frosted	Pl. —Peeled
B.C. —Bronze Color	B.F. —Badly Frosted	S.Pl. —Slightly Peeled
Bl. —Bleached	G. —Green	B.Pl. —Badly Peeled
S.Bl. —Some Bleached	S.G. —Slightly Green	Sh. —Shrunken
B.Bl. —Badly Bleached	V.G. —Very Green	St. —Stained
D. —Dark	I. —Immature	Stch. —Starchy
E. —Ergoty	S.I. —Slightly Immature	S.Stch. —Slightly Starchy
S.E. —Slightly Ergoty	M. —Mildewed	V.Stch. —Very Starchy
F. —Frosted	Pk. —Pink	W. —Weathered
	S.Pk. —Slightly Pink	W.S. —Weather Stained

ANALYSIS OF DATA

The Saskatchewan Cereal Variety Committee has devised and improved a scheme of provincial zonation for cereal varieties. The zones are illustrated on pages 32 and 33 and a description of each zone is given below. It should be stressed that local conditions may vary somewhat from the average of a zone. With regard to such exceptions, accurate information on local adaptation of varieties may be obtained from the University of Saskatchewan or the nearest Dominion Experimental Farm. All data resulting from the wheat tests conducted during 1946 were averaged on the basis of Cereal Variety Zones. In the case of the barley project, the limited number of tests conducted made it necessary to combine the zones where conditions are similar into areas which are illustrated on page No. 50.

Cereal Variety Zones—Prevailing Soil Type and Climatic Conditions

Zone

- 1A Brown soils; subject to frequent droughts.
- 1B Brown soils; subject to more frequent droughts than 1A.
- 2A Dark brown soils; subject to occasional droughts; better moisture conditions than 1A.
- 2B Dark brown soils; slightly cooler than 2A.
- 2C Dark brown soils; bench land; cooler; shorter frost-free season and better moisture conditions than 1A.
- 2D Dark brown soils; higher elevation and distinctly shorter frost-free season than 2B.
- 2E Dark brown heavy clay soils; more drought resistance than 2A and 2B.
- 2F Brown and dark brown heavy clay soils; more drought resistance than 1A and adjoining 2B.
- 3A Black soils; better moisture conditions than 2A.
- 3B Deep black and degraded black soils; shorter frost-free season and better moisture conditions than 3A.
- 3C Black soils; better moisture conditions than 2B and cooler than 3A.
- 3D Deep black soils; better moisture conditions than 3E.
- 3E Black soils; shorter frost-free season and better moisture conditions than 2D.
- 3F Degraded black soils; better moisture conditions and shorter frost-free season than 3D.
- 3H Degraded black soils; distinctly short frost-free season.
- 4A Grey and strongly degraded black soils; short frost-free season.
- 4B Grey soils; distinctly short frost-free season; better moisture conditions than 3E.

RAINFALL

As the amount of rainfall during the growing season has a far greater influence upon the yields than the amount of annual precipitation, the rainfall shown in the following table covers only the months representing the growing period of wheat in Saskatchewan.



Thelma Terry of Wilcox inspecting her wheat variety test.

TABLE No. 1.—THIS TABLE SHOWS THE NUMBER OF POINTS REPORTING AND THE AVERAGE MONTHLY PRECIPITATION DURING THE PERIOD APRIL-AUGUST, SUMMARIZED BY CEREAL VARIETY ZONES.

AVERAGE TOTAL PRECIPITATION										
Cereal Variety Zone	*	April	*	May	*	June	*	July	*	August
1A.....	15	.37	16	.77	15	2.28	16	2.32	14	1.83
1B.....	4	.64	3	1.10	3	1.89	4	1.94	4	2.58
2A.....	4	.33	4	1.23	4	2.78	4	4.68	4	2.21
2B.....	11	.63	10	.90	9	2.52	10	2.55	11	1.53
2C and 2D.....	5	.57	5	1.06	6	2.37	6	1.21	6	2.68
2E and 2F.....	8	.48	9	1.11	7	2.64	9	3.40	10	1.77
3A.....	3	.63	3	1.02	3	2.24	3	3.57	3	2.27
3B.....	3	.82	3	.75	3	1.67	2	2.40	3	2.20
3C.....	10	.89	10	1.03	10	2.75	10	3.74	9	2.89
3D and 3F.....	3	1.01	3	.99	3	2.39	3	2.48	3	1.78
3E.....	6	1.19	6	1.58	3	1.58	4	1.16	4	2.75
4A.....	2	.58	2	1.36	1	2.08	2	2.74	2	2.85
4B.....	4	.89	3	1.39	4	1.43	3	1.06	3	3.01

*Number of stations reporting.

Note: The precipitation records from which the above table was compiled were supplied by the Provincial Department of Agriculture.

WHEAT TESTS

DESCRIPTION OF VARIETIES

THATCHER was produced from a cross made in 1921 at the Minnesota Agricultural Experiment Station, St. Paul, between (Marquis x Iumillo) x (Marquis x Kanred). From one of the original crosses (Marquis x Iumillo), a bread wheat type was obtained with a considerable degree of resistance to stem rust under field conditions. From the Marquis x Kanred cross, a spring wheat was selected of good milling and baking quality that was immune to several forms of black stem rust and had high yielding ability. Thatcher originated from a cross between these two. Thatcher is resistant to most forms of black stem rust and to loose smut, but is susceptible to leaf rust and covered smut.

APEX was developed at the University of Saskatchewan, Saskatoon, from the composite cross (H-44-24 x Double Cross) x Marquis. Double Cross is a sister of Thatcher. Apex is highly resistant to stem rust, moderately resistant to covered smut and loose smut, but susceptible to leaf rust. A new strain known as Sask. 2177 was used in these tests. This strain resulted from back crossing Apex on to Marquis.

RESCUE originated from a cross made in 1938 at the Cereal Division, Central Experimental Farm, Ottawa, between Apex and S-615. The resultant population was transferred to the Dominion Experimental Station at Swift Current, Saskatchewan, for exploitation. Here plant breeders in co-operation with the Division of Entomology, Science Service, produced Rescue. It is the first bread wheat variety to be introduced which is capable of resisting the attacks of the wheat stem sawfly to a high degree. Rescue is resistant to stem rust but susceptible to leaf rust and covered smut and moderately susceptible to rootrot. For purposes of grading it is considered not equal to Marquis in quality and cannot be graded higher than Manitoba 3 Northern.

REDMAN is the result of a cross between Regent and Canus made in 1934 by the Cereal Division staff located at the Dominion Laboratory of Cereal Breeding, Winnipeg, Manitoba. Canus was developed from a cross between Marquis and Kanred. Redman is resistant to stem rust, leaf rust and covered smut. It ranks with Marquis and Thatcher in milling and baking quality.

TABLE No. 2.—AVERAGE YIELDS IN BUSHELS PER ACRE SUMMARIZED BY CEREAL VARIETY ZONES AND GROUPED ZONES

Cereal Variety Zone	No. of Satisfactory tests	Thatcher	Apex	Rescue	Redman	Necessary Difference in Bushels
1A.....	40	15.5	13.8	14.2	14.1	.5
1B.....	11	13.4	12.7	13.7	12.2	1.2
2A.....	13	17.4	17.6	17.2	16.4	1.0
2B.....	19	16.0	14.6	14.4	15.1	.8
2C and 2D.....	10	13.2	12.5	11.7	11.7	1.0
2E and 2F.....	8	22.6	21.4	20.7	21.9	1.2
3A.....	12	23.0	22.6	20.9	23.8	1.2
3B.....	7	30.7	30.6	28.0	28.9	1.9
3C.....	22	29.7	29.5	25.5	29.2	1.6
3D and 3F.....	6	30.2	30.5	28.2	27.6	*
3E.....	23	21.8	20.8	19.1	20.1	1.0
4A.....	8	31.4	31.0	28.9	30.2	2.0
4B.....	9	24.6	25.3	21.6	26.4	4.0

*No significant grain yield difference between varieties.

GRAIN YIELD

The excellent yielding ability of the Thatcher variety is demonstrated once again by the results of the 1946 test. A total of 188 satisfactory tests representing all types of soil and climate in the Province (see map showing location of tests—page 4) gave an average yield of 20.8 bushels per acre for the Thatcher variety. **THATCHER** exceeded Apex, its closest rival, by .8 bushel. Thatcher outyielded Redman by 1 bushel and Rescue by 2 bushels per acre. In eight of the thirteen areas under review, Thatcher ranked first in yield. It was second in four areas and third in Zone 4B, where July frosts took a heavy toll of the wheat crop. In that Zone, Redman, with an average maturity period five days shorter than any other variety,

excelled in yield. Thatcher gave its best performance in Zones 1A, 2B and 3E, where it outyielded all other varieties by differences which equalled or exceeded the necessary difference. In the grouped Zones 2C and 2D Thatcher significantly outyielded Rescue and Redman. In the 2E and 2F group Thatcher yielded significantly more than Rescue and Apex. **APEX** ranked second in yielding ability, with an average of 20.0 bushels per acre for the whole Province. Apex outyielded all other varieties in Zone 2A and grouped Zones 3D and 3F. However, there was no significant difference in yields in Zones 3D and 3F. In 2A Apex outyielded Redman only by an amount which exceeded the necessary difference. **REDMAN** was third in yield with a Province-wide average of 19.8 bushels per acre. It exceeded all other varieties in Zones 3A and 4B. In 3A the difference was significant in the case of Apex and Rescue and in 4B it was significant only in the case of Rescue. Redman ranked second in two zones and third in five.

RESCUE, with an average yield of 18.8 bushels per acre, placed fourth and last for the entire Province. The sawfly resistant variety outyielded the other varieties in Zone 1B, but only in the case of Redman was the difference significant. Rescue ranked second in 1A but failed to significantly outyield Redman or Apex. In the remaining zones the performance of Rescue was not outstanding.

Generally, the yields appearing in Table No. 2 do not show wide fluctuations between the different varieties. Although Thatcher proved definitely superior, in most cases the other varieties were not far behind. This fact would indicate that all four varieties have high yielding ability. Apex has proven its excellent characteristics in tests conducted previously and undoubtedly still ranks with the better varieties. Rescue is the first sawfly resistant bread wheat to be introduced for commercial production in Saskatchewan. It is noteworthy that this variety made its best showing in Zones 1A and 1B, where sawfly infestation is usually a serious factor. In giving consideration to these results, however, it should be borne in mind that Rescue is not eligible for a grade higher than No. 3 Northern. It has some undesirable characteristics but it represents a definite step towards combatting the serious sawfly losses which have been experienced in recent years.

TABLE No. 3.—AVERAGE NUMBER OF DAYS FROM SOWING TO RIPENING SUMMARIZED BY CEREAL VARIETY ZONES

Cereal Variety Zone	Thatcher	Apex	Rescue	Redman
1A.....	101.4	102.0	101.9	101.3
1B.....	98.0	98.7	98.5	97.7
2A.....	97.4	98.1	97.7	97.4
2B.....	101.3	102.4	102.8	102.6
2C and 2D.....	103.6	104.0	104.1	103.7
2E and 2F.....	104.7	106.3	106.5	105.5
3A.....	99.6	100.8	100.1	99.4
3B.....	85.4	86.2	86.2	85.1
3C.....	102.0	104.1	103.1	102.3
3D and 3F.....	101.0	102.0	103.0	101.2
3E.....	100.7	101.7	102.2	100.3
4A.....	94.1	96.6	95.5	94.6
4B.....	106.6	107.8	106.8	101.1

DAYS FROM SOWING TO RIPENING

Table No. 3 shows the average number of days required by each variety to reach maturity in the different cereal variety zones. Taking the Province as a whole, Redman excelled in earliness. It required 100.5 days to reach maturity but Thatcher was close behind with an average ripening time of 100.6 days. Rescue was third with 101.5 days, one day later than Redman. Apex, ripening in 101.7 days, proved later than all other varieties. Considering the results on the basis of cereal variety zones, it is evident that there is little to choose between Thatcher and Redman, as each variety excelled in earliness in six zones. Rescue took third place, ripening later than Redman and Thatcher in all areas and earlier than Apex in seven of the thirteen zones. Apex was decidedly later than all other varieties, ripening last in seven zones. It is interesting to note that the greatest difference in ripening time occurred in Zone 4B, where Redman matured 5.5 days prior to Thatcher, its closest rival in this respect. As Zone 4B is in the

northerly area where frosts are a constant threat, the early maturing characteristics of Redman may have considerable significance. However, further tests are required before definite information in this regard may be established.



The wheat test of Albert Hunter of Riverhurst.

TABLE No. 4.—AVERAGE HEIGHT OF PLANTS IN INCHES SUMMARIZED BY CEREAL VARIETY ZONES

Cereal Variety Zone	Thatcher	Apex	Rescue	Redman
1A.....	25.2	25.4	25.2	25.1
1B.....	22.7	22.5	22.4	22.7
2A.....	31.1	32.0	31.7	31.0
2B.....	27.8	28.0	28.2	27.8
2C and 2D.....	26.0	26.0	25.7	26.2
2E and 2F.....	31.0	31.9	31.4	31.0
3A.....	33.6	34.4	34.8	33.6
3B.....	35.5	35.6	35.8	36.0
3C.....	34.9	35.8	35.9	35.2
3D and 3F.....	37.2	37.2	37.2	36.8
3E.....	32.2	32.8	32.4	32.2
4A.....	31.8	32.1	33.0	31.5
4B.....	40.4	40.6	40.0	40.8



The wheat variety test supervised by Betty Evans of Lightwoods.

AVERAGE HEIGHT OF PLANTS

Table No. 4 gives the average height of plants for the different cereal variety zones. On a provincial basis only slight variation appeared in the height of the varieties. Apex showed an average height of 30.6 inches. Rescue was second, averaging 30.5 inches. Thatcher and Redman tied for third place at 30.2 inches. It will be observed that height is not an important factor as less than .5 inch separated the four varieties.

**TABLE No. 5.—AVERAGE STRAW STRENGTH OF PLANTS ON THE BASIS 10 (STRONG)
0 (WEAK) SUMMARIZED BY CEREAL VARIETY ZONES**

Cereal Variety Zone	Thatcher	Apex	Rescue	Redman
1A.....	8.7	8.2	8.7	8.5
1B.....	8.6	8.6	9.4	8.7
2A.....	8.4	8.7	9.0	8.9
2B.....	8.6	8.9	8.2	9.1
2C and 2D.....	8.9	8.7	8.5	9.0
2E and 2F.....	8.8	8.5	8.7	8.7
3A.....	9.2	9.0	8.9	9.3
3B.....	8.8	8.7	7.5	9.2
3C.....	8.9	8.6	7.2	9.1
3D and 3F.....	9.0	8.6	7.2	8.6
3E.....	9.1	8.6	7.9	8.8
4A.....	9.5	9.0	8.7	9.4
4B.....	9.5	9.7	8.3	9.4

STRAW STRENGTH

Table No. 5 shows the average straw strength of the varieties by cereal variety zones. A comparison of all tests in the Province indicates that Redman was superior in strength of straw. It was followed closely by Thatcher. Apex and Rescue ranked third and fourth respectively. In five of the thirteen zones Redman excelled, while Thatcher proved strongest in four zones. Apex had the strongest straw in only one zone. Rescue showed considerable variation, ranging from satisfactory in the southwestern zones to definitely weak in the northerly areas of the Province. In Zones 1A, 1B, 2A and the grouped Zones 2E and 2F, Rescue straw showed considerable strength while in the remaining zones it proved weaker than that of any other variety. This apparent strength in the areas where sawflies cause considerable damage is undoubtedly due to a great extent to the sawfly resistance of the variety and not to any particular strong straw characteristics.



Gordon Laughland of Qu'Appelle beside his wheat variety test.

TABLE No. 6.—AVERAGE WEIGHT PER MEASURED BUSHEL SUMMARIZED BY CEREAL VARIETY ZONES

Cereal Variety Zone	Thatcher	Apex	Rescue	Redman
1A.....	57.2	58.6	58.2	55.7
1B.....	58.6	59.6	59.2	57.6
2A.....	58.9	59.8	59.5	57.7
2B.....	57.1	58.3	58.0	55.7
2C and 2D.....	57.9	60.2	59.5	57.4
2E and 2F.....	59.3	60.7	59.9	58.4
3A.....	59.2	60.1	59.3	58.9
3B.....	62.2	62.6	61.5	61.8
3C.....	60.9	61.5	61.0	60.4
3D and 3F.....	63.1	63.7	63.2	62.5
3E.....	59.2	60.3	59.8	58.6
4A.....	61.9	62.2	61.8	61.2
4B.....	61.6	62.5	61.5	61.0

WEIGHT PER MEASURED BUSHEL

Table No. 6 shows the average weight per measured bushel summarized by cereal variety zones. A general comparison of the varieties over the entire Province indicates that Apex was definitely superior in bushel weight. Apex had an average weight of 60.2 pounds per measured bushel. Rescue was second with 59.7 pounds, followed by Thatcher and Redman with 59.1 and 58.2 pounds respectively. The differences in bushel weight between the varieties were not of a wide nature. On a Province-wide basis Apex, the leading variety, outweighed Redman by only two pounds. The other varieties were within this range. At the same time, a study of Table No. 6 shows that Apex consistently took first place. Rescue ranked second in ten of the thirteen areas, Thatcher was third in bushel weight for ten areas, and Redman was outweighed by all other varieties in twelve regions. It is of interest to note that although the fluctuations were not of a marked nature, the trend of each variety remained consistent for almost all zones. On the basis of the results shown above, it is clearly indicated that Apex excelled in weight per measured bushel.

TABLE No. 7.—COMMERCIAL GRADES IN PERCENTAGE

	1 Hd. %	1 Nor. %	2 Nor. %	3 Nor. %	4 Nor. %	4 Sp. %	No. 5 %	5 Sp. %	No. 6 %	6 Sp. %	Feed %
Thatcher.....	—	27.7	30.2	11.2	12.4	6.5	3.5	4.0	1.5	1.5	1.5
Apex.....	1.0	31.2	23.4	17.9	8.5	4.5	5.0	3.0	3.5	1.0	1.0
Rescue.....	—	—	—	73.1	8.9	6.0	4.0	3.0	2.5	1.0	1.5
Redman.....	—	14.4	26.4	19.9	12.4	8.9	7.0	3.5	1.0	2.5	4.0

COMMERCIAL GRADES

Table No. 7 gives the commercial grades in percentage for each variety. Over the whole Province Apex showed superiority in grading ability. It produced the only samples throughout the project which were eligible for the 1 Hd. class. Apex led the other varieties in the percentage of samples to grade No. 1 Northern. The most important factor in the excellent grades of the Apex variety was bushel weight. Referring to the discussion on "Weight Per Measured Bushel" it is noticeable that Apex outweighed Thatcher by 1.1 pounds on an average basis. This advantage was sufficient to overcome the slightly greater loss by early frost which Apex suffered in comparison to the Thatcher variety. The past excellent grading record of Apex has been substantiated. Thatcher was second in grading ability. Although this variety suffered slightly less from frost damage and immature kernels, its lower bushel weight and tendency to bleach reduced its grades to a certain extent. Redman was third in commercial grades, mainly because of lower bushel weight than the other varieties. Rescue, of course, was hampered by comparatively low milling qualities which will not allow this variety to grade higher than No. 3 Northern. For this reason it was fourth in average grades despite its satisfactory bushel weight and general appearance. In a number of regions frosted kernels were evident in all varieties. This factor, of course, was more noticeable in samples from the northerly tests where severe frosts late in July caused considerable losses, especially in Apex and Rescue, the later maturing varieties.



Patrick Williams of Halvorgate beside his wheat variety test.

SUMMARIZATION ACCORDING TO CEREAL VARIETY ZONES

To enable the reader to study the characteristics of each variety for a particular locality the results of the testing project have been summarized in Cereal Variety Zones as described in the discussion, "Analysis of Data," on page 8. The average for all satisfactory tests in the zone has been taken as the basic performance for any characteristic.

In cases where the number of tests in a zone was insufficient to give an accurate average, the tests from two zones where soil and climatic conditions are similar were grouped together.

In order to avoid repetition, the number of wheat varieties tested each year since 1940 is shown below. The reader will find this information invaluable when studying the "General Yield Performance During Past Seven Years." Five varieties were tested in 1940, three varieties in 1941, six varieties in 1942, four varieties in 1943, six varieties in 1944, none in 1945, and four in 1946.

TABLE No. 8.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONE 1A
(40 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	15.5	13.8	14.2	14.1
Height of plants in inches.....	25.2	25.4	25.2	25.1
Days from seeding to ripening.....	101.4	102.0	101.9	101.3
Straw strength.....	8.7	8.2	8.7	8.5
Bushel weight in pounds.....	57.2	58.6	58.2	55.7
Commercial grades in percentage: 1 Nor.....	12	27	—	2
2 Nor.....	37	23	—	27
3 Nor.....	10	19	63	15
4 Nor.....	15	12	16	18
4 Spec.....	17	12	12	17
No. 5.....	2	2	2	2
5 Spec.....	2	5	5	7
6 Spec.....	5	—	2	7
Feed.....	—	—	—	5

Necessary difference—.5 bushel.

CEREAL VARIETY ZONE 1A

Summarized results for Zone 1A are shown in Table No. 8. **THATCHER** produced the highest yield, exceeding all other varieties by more than the necessary difference. Thatcher was satisfactory in height, "earliness," and straw strength, but was exceeded in bushel weight by Apex and

Rescue. It was slightly inferior to Apex in grading ability. Results indicate that Thatcher is most suitable for this zone. **RESCUE** was second in yield but failed to outyield Apex or Redman significantly. It proved satisfactory in height, straw strength and bushel weight. Severe damage by sawflies frequently occurs in this zone and the highly resistant qualities of the Rescue variety are worthy of consideration. However, it is not likely that Rescue would exceed Thatcher in yield under sawfly-free conditions in this area. In addition, the comparatively poor grading ability of Rescue should be taken into account. **REDMAN** was third in yield, but failed to outyield Apex by the necessary difference. It excelled in "earliness," proved satisfactory in height and straw strength, but was low in bushel weight. In commercial grades Redman proved inferior to Apex and Thatcher. **APEX** excelled in bushel weight and grading ability but showed weaker straw and lower yields than the other varieties.

General Yield Performance During Past Seven Years

THATCHER has been used in Wheat Pool tests during six of the past seven years, and in this period, with the exception of 1944 when it ranked second by a narrow margin, outyielded all other bread wheat varieties. Thatcher is definitely most suitable for use in this area. **RESCUE** yielded second in 1946 but was not tested previously. **REDMAN** was third in yield during 1946 but had not been tested previously. **APEX** was tested during six of the past seven years and has given an average performance.

TABLE No. 9.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONE 1B
(11 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	13.4	12.7	13.7	12.2
Height of plants in inches.....	22.7	22.5	22.4	22.7
Days from seeding to ripening.....	98.0	98.7	98.5	97.7
Straw strength.....	8.6	8.6	9.4	8.7
Bushel weight in pounds.....	58.6	59.6	59.2	57.6
Commercial grades in percentage:				
1 Nor.....	28	28	—	18
2 Nor.....	18	27	—	18
3 Nor.....	18	9	64	10
4 Nor.....	9	18	18	27
4 Spec.....	9	—	9	9
No. 5.....	9	—	9	9
5 Spec.....	9	9	—	9
No. 6.....	—	9	—	—

Necessary difference—1.2 bushels.

CEREAL VARIETY ZONE 1B

Summarized results for Zone 1B are shown in Table No. 9. **RESCUE** exceeded the other varieties in yield but only in the case of Redman was the difference significant. Rescue excelled in straw strength and proved satisfactory in height and bushel weight. On the basis of these results, Rescue would appear to be suitable for use in this zone when considerable sawfly damage is in prospect. **THATCHER** was second in yield, outyielding Redman by a difference equalling the necessary difference. Thatcher proved satisfactory in height, "earliness" and bushel weight. It graded comparatively well and the results of this test again indicate that it is one of the best varieties for use in Zone 1B. **APEX** excelled in bushel weight and commercial grades but showed no other outstanding characteristics. **REDMAN** ripened early but was low in yield and bushel weight.

General Yield Performance During Past Seven Years

RESCUE was used in Wheat Pool tests for the first time during 1946. **THATCHER** has been tested during six of the past seven years, yielding first one year, second in four years, and last in one year. **APEX** has been tested six times during the period under review, generally yielding slightly below average. **REDMAN** was not used in tests previous to 1946.

TABLE No. 10.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONE 2A
(13 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	17.4	17.6	17.2	16.4
Height of plants in inches.....	31.1	32.0	31.7	31.0
Days from seeding to ripening.....	97.4	98.1	97.7	97.4
Straw strength.....	8.4	8.7	9.0	8.9
Bushel weight in pounds.....	58.9	59.8	59.5	57.7
Commercial grades in percentage: 1 Nor.....	44	44	—	31
2 Nor.....	12	12	—	19
3 Nor.....	19	19	75	6
4 Nor.....	13	6	—	19
4 Spec.....	6	—	6	12
No. 5.....	—	13	13	6
5 Spec.....	6	6	6	—
6 Spec.....	—	—	—	7

Necessary difference—1.0 bushel.

CEREAL VARIETY ZONE 2A

Summarized results for Cereal Variety Zone 2A are shown in Table No. 10. **APEX** was high in yield but only in the case of Redman was the difference significant. It excelled in height and bushel weight, proved satisfactory in straw strength but was later in maturing than the other varieties. Apex approximately equalled Thatcher in grading ability. **THATCHER** ranked second in yield, exceeding Redman by a difference which equalled the necessary difference. The straw of Thatcher was slightly weaker than that of any other variety. This may be due in part to sawfly damage which appeared to be more extensive in Thatcher than in the other varieties. Thatcher equalled Redman in "earliness" and proved satisfactory in other characteristics. **RESCUE** showed marked resistance to sawfly infestation and consequently proved superior in strength of straw to the other varieties. Rescue was satisfactory in bushel weight and height, but from a commercial viewpoint its relatively poor grades would to some extent, at least, offset these advantages. **REDMAN** proved inferior in yield, bushel weight and height. Its desirable characteristics were early maturity and satisfactory straw strength.

General Yield Performance During Past Seven Years

APEX has been tested in six of the past seven years and during most of the period has proven inferior to Thatcher, the exception being 1946 when it outyielded all other varieties. Apex ranked second in 1940, third in 1941 and 1943, and fourth in 1942 and 1944. Over the same period **THATCHER** has outyielded all other varieties during four years, and ranked second in 1942 and 1946. This record would indicate that Thatcher is preferable for use in Zone 2A. **RESCUE** and **REDMAN** were not used in Wheat Pool tests prior to 1946 and further investigation is desirable before any definite conclusions may be drawn with regard to these varieties.

TABLE No. 11—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONE 2B
(19 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	16.0	14.6	14.4	15.1
Height of plants in inches.....	27.8	28.0	28.2	27.8
Days from seeding to ripening.....	101.3	102.4	102.8	102.6
Straw strength.....	8.6	8.9	8.2	9.1
Bushel weight in pounds.....	57.1	58.3	58.0	55.7
Commercial grades in percentage: 1 Nor.....	20	45	—	10
2 Nor.....	30	10	—	15
3 Nor.....	10	10	65	15
4 Nor.....	15	15	15	20
4 Spec.....	5	—	5	15
5 Spec.....	10	10	10	5
6 Spec.....	5	10	5	5
Feed.....	5	—	—	15

Necessary difference—.8 bushel.

CEREAL VARIETY ZONE 2B

THATCHER outyielded all other varieties by a difference which exceeded the necessary difference for Zone 2B. It excelled in "earliness" but proved inferior to Apex and Rescue in bushel weight. Other characteristics of Thatcher were satisfactory indicating its suitability for use in this area. **REDMAN** produced the strongest straw in addition to a satisfactory yield but its low bushel weight and inferior grades would at least partially offset the favorable characteristics. **APEX** showed good bushel weight and commercial grades but had no other outstanding characteristics in its favour. **RESCUE** exceeded the other varieties in height. Its bushel weight was satisfactory but it showed low yield, late maturity and poor grading ability. Its mediocre performance, apart from resistance to sawfly infestation, would not appear to warrant recommendation for use in this zone. However, as the results of one year's test are inconclusive, further tests should be carried out.

General Yield Performance During Past Seven Years

THATCHER has been used in Wheat Pool tests during six of the past seven years. It outyielded all other varieties four times and ranked second in 1942 and 1943. On the basis of these results, Thatcher would appear to be the most suitable variety for use in Zone 2B. **REDMAN** was tested for the first time during 1946. **APEX**, over a period of six years, yielded first in 1943, third in 1940, 1941 and 1946, and fourth in 1942 and 1944. **RESCUE** has been tested only once in this zone.

TABLE No. 12.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONES 2C and 2D
(10 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	13.2	12.5	11.7	11.7
Height of plants in inches.....	26.0	26.0	25.7	26.2
Days from seeding to ripening.....	103.6	104.0	104.1	103.7
Straw strength.....	8.9	8.7	8.5	9.0
Bushel weight in pounds.....	57.9	60.2	59.5	57.4
Commercial grades in percentage:				
1 Nor.....	—	25	—	—
2 Nor.....	25	17	—	17
3 Nor.....	17	17	67	17
4 Nor.....	8	8	8	17
4 Spec.....	17	8	8	8
No. 5.....	8	8	—	17
5 Spec.....	8	—	—	8
No. 6.....	8	8	8	8
Feed.....	9	9	9	8

Necessary difference—1.0 bushel.

CEREAL VARIETY ZONES 2C AND 2D

THATCHER again demonstrated its high yielding ability in the combined Zones 2C and 2D. It exceeded Rescue and Redman in yield by a difference which was greater than the necessary difference. The yield advantage of Thatcher over Apex, however, was not significant. Thatcher matured earlier than any other variety and showed satisfactory height and straw strength. It was inferior to Apex and Rescue in bushel weight but its general performance leaves no doubt of its suitability for use in this area. **APEX** ranked second in yield but failed to outyield either Rescue or Redman by a difference which was significant. Apex excelled in bushel weight and commercial grades but was slightly later in maturing and weaker in straw than Thatcher or Redman. **RESCUE** and **REDMAN** were equal in yielding ability. As expected, Rescue showed considerably less sawfly damage than the other varieties. It proved satisfactory in bushel weight, but its poor grades, relatively weak straw and mediocre yield tend to offset its desirable characteristics. **REDMAN** excelled in height and straw strength and was satisfactory in "earliness." On the other hand, however, Redman showed poor bushel weight and low grades.

General Yield Performance During Past Seven Years

Since 1940 **THATCHER** has been tested six times, outyielding all other varieties in four years and ranking second in the remaining two years. On the basis of these tests it would appear that the Thatcher variety

is highly satisfactory for continued use throughout Zones 2C and 2D. **APEX** has been tested during six years, yielding fifth in 1940, second in 1941, fourth in 1942, third in 1943, fourth in 1944, and second in 1946. The **RESCUE** and **REDMAN** varieties were first used in Wheat Pool tests in 1946.

TABLE No. 13.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONES 2E and 2F
(8 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	22.6	21.4	20.7	21.9
Height of plants in inches.....	31.0	31.9	31.4	31.0
Days from seeding to ripening.....	104.7	106.3	106.5	105.5
Straw strength.....	8.8	8.5	8.7	8.7
Bushel weight in pounds.....	59.3	60.7	59.9	58.4
Commercial grades in percentage:				
1 Nor.....	55	67	—	33
2 Nor.....	33	22	—	33
3 Nor.....	—	11	100	22
4 Nor.....	12	—	—	—
4 Spec.....	—	—	—	12

Necessary difference—1.2 bushels.

CEREAL VARIETY ZONES 2E AND 2F

Summarized results for Cereal Variety Zones 2E and 2F are shown in Table No. 13. **THATCHER** was high in yield, exceeding Apex and Rescue significantly. Its superior straw strength and comparatively early maturity, combined with satisfactory height, bushel weight and grades, indicate that it is an excellent choice for use in this area. **REDMAN** produced satisfactory yield but showed no other outstanding characteristics. The poor bushel weight and relatively low grades of this variety are noticeable disadvantages. **APEX** excelled in height, bushel weight and commercial grades. It had weaker straw than any other variety and required a comparatively lengthy maturity period. **RESCUE** was low in yield and grading ability and ripened late. It showed definite resistance to sawflies and, as a result, sustained considerably less damage than the other varieties.

General Yield Performance During Past Seven Years

In 1943 Apex slightly exceeded Thatcher in yield over this part of the Province but in every other year since 1940 **THATCHER** has shown marked superiority. On the basis of this record, Thatcher would appear highly satisfactory for continued use in Zones 2E and 2F. **REDMAN** was second in yield during 1946, the first year it was included in Wheat Pool tests. **APEX** ranked first in 1943 and has given an average performance in other years. **RESCUE** was first used in Wheat Pool tests during 1946. Its ability to resist sawfly attacks is of importance, and in Zone 2E at least, this favorable characteristic may be worthy of serious consideration.



The wheat test supervised by Dwayne McBride of Viceroy.

TABLE No. 14.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONE 3A
(12 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	23.0	22.6	20.9	23.8
Height of plants in inches.....	33.6	34.4	34.8	33.6
Days from seeding to ripening.....	99.6	100.8	100.1	99.4
Straw strength.....	9.2	9.0	8.9	9.3
Bushel weight in pounds.....	59.2	60.1	59.3	58.9
Commercial grades in percentage:				
1 Hd.....	—	8	—	—
1 Nor.....	50	25	—	17
2 Nor.....	17	50	—	42
3 Nor.....	25	8	92	33
4 Spec.....	—	9	—	—
5 Spec.....	8	—	8	—
Feed.....	—	—	—	8

Necessary difference—1.2 bushels.

CEREAL VARIETY ZONE 3A

Summarized results for Cereal Variety Zone 3A are shown in Table No. 14. **REDMAN** was high in yield, exceeding Apex and Rescue by differences which are significant. It excelled in "earliness" and straw strength but was slightly inferior in bushel weight, and ranked third in grading ability. Redman has not been used in Wheat Pool tests prior to 1946 and it cannot be stressed too strongly that the results of one year's tests are by no means conclusive. However, its performance in 1946 indicates that Redman is worthy of consideration when the choice of variety for use in this area is being made. **THATCHER** proved satisfactory in "earliness," straw strength, bushel weight grades and yield. It was, however, shorter in straw than Rescue and Apex. **APEX** excelled in bushel weight and grading ability. It proved satisfactory in height but was late in maturing. **RESCUE** was low in yield and commercial grades, proved weaker in straw than the other varieties but showed quite good bushel weight. It excelled in height but ripened later than either Redman or Thatcher. Losses due to sawflies were not heavy in tests in this area and it seems unlikely that Rescue will prove suitable for use in Zone 3A.

General Yield Performance During Past Seven Years

REDMAN was included in Wheat Pool tests for the first time in 1946. **THATCHER** has been tested during six of the seven years under review, yielding first in three years and second in the remaining three. Its past record would indicate that Thatcher is a good choice for Zone 3A. **APEX** yielded fourth in 1942. For the remaining five years during which it was tested, Apex placed last in 1941 and 1944 and second last in 1940, 1943, and 1946. **RESCUE** was used for the first time in 1946.

TABLE No. 15.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONE 3B
(7 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	30.7	30.6	28.0	28.9
Height of plants in inches.....	35.5	35.6	35.8	36.0
Days from seeding to ripening.....	85.4	86.2	86.2	85.1
Straw strength.....	8.8	8.7	7.5	9.2
Bushel weight in pounds.....	62.2	62.6	61.5	61.8
Commercial grades in percentage:				
1 Nor.....	50	37	—	25
2 Nor.....	25	25	—	37
3 Nor.....	—	13	75	13
4 Nor.....	12	—	—	—
No. 5.....	—	12	12	12
No. 6.....	13	13	—	13
Feed.....	—	—	13	—

Necessary difference—1.9 bushels.

CEREAL VARIETY ZONE 3B

The summarized results for Zone 3B are shown in Table No. 15. **THATCHER** was high in yield followed closely by Apex. It outyielded Rescue by a difference which exceeded the necessary difference, but failed

to outyield Redman significantly. Thatcher was superior in commercial grades and proved satisfactory in other characteristics. The results indicate that this variety is highly suitable for continued use in Zone 3B. **APEX** practically equalled Thatcher in yielding ability and yielded significantly more than Rescue. It excelled in bushel weight but proved inferior to Thatcher in commercial grades, straw strength and "earliness." **REDMAN** ripened earlier than the other varieties, excelled in straw strength and height and was satisfactory in bushel weight and commercial grades. **RESCUE** was low in yield, bushel weight and grades. It matured later than Thatcher and Redman and produced definitely weak straw.

General Yield Performance During Past Seven Years

THATCHER has been used in Wheat Pool tests in this zone during six of the past seven years. It was high yielder for four years and ranked second in 1942 and 1944. **APEX** has been tested during six years. In 1942 it placed fourth and in 1946 it was second. In each of the remaining years Apex gave a poor performance. **REDMAN** and **RESCUE** were included for the first time in 1946.

TABLE No. 16.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONE 3C
(22 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	29.7	29.5	25.5	29.2
Height of plants in inches.....	34.9	35.8	35.9	35.2
Days from seeding to ripening.....	102.0	104.1	103.1	102.3
Straw strength.....	8.9	8.6	7.2	9.1
Bushel weight in pounds.....	60.9	61.5	61.0	60.4
Commercial grades in percentage:				
1 Hd.....	—	5	—	—
1 Nor.....	37	37	—	21
2 Nor.....	37	25	—	42
3 Nor.....	13	25	87	25
4 Nor.....	8	—	4	—
4 Spec.....	—	—	—	4
No. 5.....	5	4	5	8
No. 6.....	—	4	4	—

Necessary difference—1.6 bushels.

CEREAL VARIETY ZONE 3C

Summarized results for Zone 3C appear in Table No. 16. With the exception of the Rescue variety, only slight variations were shown in yields in this zone. **THATCHER** was high with **APEX** second and **REDMAN** third. The differences in yield between these varieties failed to equal the necessary difference for the zone, but all yielded significantly more than Rescue. **THATCHER** was shorter than the other varieties but matured early and proved satisfactory in straw strength, bushel weight and grades. **REDMAN** gave a good general performance and merits careful attention when the choice of a variety for this area is being considered. **APEX** excelled in bushel weight and commercial grades, but its straw was weaker than Thatcher and Redman and it ripened later than all other varieties. **RESCUE** was definitely inferior in yield and straw strength which, combined with its poor grading ability and mid-late maturity, would indicate its unsuitability for use in this zone.

General Yield Performance During Past Seven Years

THATCHER has been tested during six of the past seven years. It outyielded all other varieties four times and ranked second twice. Its excellent record demonstrates that Thatcher is one of the best varieties for Zone 3C. Although **APEX** was second in yield in 1941 and 1946, its general ability during the period under review has not been outstanding. As **REDMAN** has been used for one year only the information obtained so far should be considered of a preliminary nature. However, the results indicate that it may prove satisfactory for this zone. **RESCUE** was tested for the first time in 1946.

TABLE No. 17.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONES 3D and 3F

(6 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	30.2	30.5	28.2	27.6
Height of plants in inches.....	37.2	37.2	37.2	36.8
Days from seeding to ripening.....	101.0	102.0	103.0	101.2
Straw strength.....	9.0	8.6	7.2	8.6
Bushel weight in pounds.....	63.1	63.7	63.2	62.5
Commercial grades in percentage:				
1 Nor.....	67	50	—	67
2 Nor.....	17	17	—	—
3 Nor.....	16	16	83	33
4 Nor.....	—	17	17	—

No significant grain yield difference between varieties.

CEREAL VARIETY ZONES 3D AND 3F

Summarized results for Cereal Variety Zones 3D and 3F are shown in Table No. 17. There were no significant differences between yields in this area. **APEX**, however, was high in yielding capacity followed by **THATCHER**, **RESCUE** and **REDMAN** in that order. **THATCHER** ripened early, excelled in straw strength and grading ability, and showed satisfactory bushel weight. **APEX** ranked first in weight per measured bushel, but was inferior to the Thatcher variety in grades, straw strength and "earliness." **RESCUE**, although satisfactory in height and bushel weight, was later ripening and weaker in straw than any other variety. The relatively long maturity period of the Rescue variety is a disadvantage in this particular area where severe frosts frequently occur during the growing season. **REDMAN** gave a satisfactory performance. Its relatively early maturity is of importance in the northerly region, of which these zones are a part.

General Yield Performance During Past Seven Years

THATCHER has been used in five of the past seven years in tests throughout this area. The suitability of the variety is once more demonstrated by the fact that it outyielded all other varieties in three of the five years. In 1942 and 1946 Thatcher ranked second but in neither years was the superiority of the higher yielding variety of a marked nature. **APEX** was high in yield for 1946 but has generally given only an average performance in this area. **RESCUE** and **REDMAN** were used in Wheat Pool tests for the first time in 1946.

TABLE No. 18.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONE 3E

(23 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	21.8	20.8	19.1	20.1
Height of plants in inches.....	32.2	32.8	32.4	32.2
Days from seeding to ripening.....	100.7	101.7	102.2	100.3
Straw strength.....	9.1	8.6	7.9	8.8
Bushel weight in pounds.....	59.2	60.3	59.8	58.6
Commercial grades in percentage:				
1 Nor.....	26	22	—	9
2 Nor.....	26	26	—	22
3 Nor.....	9	17	74	26
4 Nor.....	17	9	—	13
4 Spec.....	4	9	9	9
No. 5.....	9	4	9	17
5 Spec.....	4	—	—	4
No. 6.....	5	13	8	—

Necessary difference—1.0 bushel.

CEREAL VARIETY ZONE 3E

Summarized results for Zone 3E are shown in Table No. 18. The superiority of **THATCHER** is particularly evident in Zone 3E where this variety significantly outyielded all others. It excelled in straw strength and commercial grades, produced satisfactory bushel weight and ripened comparatively early. **APEX** had good bushel weight and graded well. It was taller than any other variety but showed inferiority to Thatcher and Redman in straw strength and "earliness." **REDMAN** ripened early and

produced reasonably strong straw but ranked third in yield and had low bushel weight. **RESCUE** was inferior in yield and straw strength, was late in maturing and gave a generally unfavorable performance. The sawfly resistant characteristic of the Rescue variety is of limited importance in this zone.

General Yield Performance During Past Seven Years

In tests conducted during six of the past seven years **THATCHER** has generally outyielded all other varieties in Zone 3E. The exceptions were the years 1942 and 1944 when it placed second. It is apparent that Thatcher is still the most satisfactory variety for this zone. The results of **APEX** during the period under review have been only fair, one of its best performances occurring in 1946. **REDMAN** and **RESCUE** were used in Wheat Pool tests for the first time in 1946.

TABLE No. 19.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONE 4A
(8 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	31.4	31.0	28.9	30.2
Height of plants in inches.....	31.8	32.1	33.0	31.5
Days from seeding to ripening.....	94.1	96.6	95.5	94.6
Straw strength.....	9.5	9.0	8.7	9.4
Bushel weight in pounds.....	61.9	62.2	61.8	61.2
Commercial grades in percentage: 1 Nor.....	33	11	—	11
2 Nor.....	33	22	—	33
3 Nor.....	—	33	67	22
4 Nor.....	34	11	22	22
No. 5.....	—	23	11	12

Necessary difference—2.0 bushels.

CEREAL VARIETY ZONE 4A

The summarized results for Zone 4A appear in Table No. 19. **THATCHER** outyielded all other varieties but only in the case of Rescue was the difference in yield significant. Thatcher matured comparatively early, a factor of considerable importance in this northerly region. In addition, it produced the strongest straw and graded well. **APEX** was second in yielding ability and excelled in bushel weight. It had the disadvantages of late maturity and inferior straw strength. **REDMAN** was third in yield but ripened fairly early and had good straw strength. It was comparatively low in bushel weight but proved superior to Apex in grading ability. This superiority was undoubtedly brought about by its "earliness" which, to some extent, enabled it to escape damage by July frosts. **RESCUE** was low in yield. It had weak straw and poor grades compared to the other varieties. It excelled, however, in height and proved satisfactory in bushel weight.

General Yield Performance During Past Seven Years

THATCHER has been tested in this area in five of the past seven years and has consistently outyielded all other varieties. This outstanding record indicates that Thatcher is highly suitable for continued use in Zone 4A. **APEX** has been tested five times during the period under review. It ranked second in 1941, 1943 and 1946 but placed fourth in 1944 and last in 1940. **REDMAN** and **RESCUE** were used for the first time in 1946.

TABLE No. 20.—SUMMARIZED RESULTS FOR CEREAL VARIETY ZONE 4B
(9 satisfactory tests)

	Thatcher	Apex	Rescue	Redman
Yield in bushels per acre.....	24.6	25.3	21.6	26.4
Height of plants in inches.....	40.4	40.6	40.0	40.8
Days from seeding to ripening.....	106.6	107.8	106.8	101.1
Straw strength.....	9.5	9.7	8.3	9.4
Bushel weight in pounds.....	61.6	62.5	61.5	61.0
Commercial grades in percentage: 2 Nor.....	70	40	—	30
3 Nor.....	—	30	60	40
4 Nor.....	10	10	20	10
No. 5.....	10	10	—	10
No. 6.....	—	—	10	—
Feed.....	10	10	10	10

Necessary difference—4.0 bushels.

CEREAL VARIETY ZONE 4B

Summarized results for Cereal Variety Zone 4B are shown in Table No. 20. **REDMAN** was high in yield. It exceeded **Rescue** by more than the necessary difference but failed to significantly outyield **Apex** or **Thatcher**. **Redman** was considerably earlier than the other varieties and excelled in height. It proved satisfactory in straw strength and bushel weight. In view of the severe frosts which occurred in this zone late in the growing season it is distinctly probable that the superior yield of **Redman** was due largely to its early maturity. **APEX** was second in yield. It excelled in bushel weight and straw strength but was late in ripening. **THATCHER** was third in yield. It showed a slight advantage over the other varieties in commercial grades and in other characteristics appeared reasonably satisfactory. **RESCUE** proved inferior in yield and straw strength which, combined with its poor grading ability and late maturing characteristic, would indicate unsuitability for use in this zone.

General Yield Performance During Past Seven Years

REDMAN was used in Wheat Pool tests for the first time in 1946. **APEX** has been tested in four of the past seven years. It ranked second in 1943 and 1946, fourth in 1944 and last in 1940. **THATCHER** has been tested four times during the period and with the exception of 1946 when it ranked third, outyielded all other varieties. **RESCUE** was used in Wheat Pool tests for the first time in 1946.



The wheat variety test of John Filazek, Jr., Spring Valley.

INDIVIDUAL RESULTS

The individual results of all wheat tests are shown in Table No. 21. The abbreviated "Grading Remarks" and the term "Necessary Difference" which appear frequently throughout this table are fully explained in the discussion on page 7 headed "Facts to be Remembered in Reading and Studying Results."

TABLE No. 21

Individual Summarized Results of all Tests—Wheat

WHEAT POOL DISTRICT 1

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per meas- ured bushel	Com- mercial grades	Grading remarks
DONALD COLQUHOUN, GAINSBOROUGH											
3A.....	1	1	A	Thatcher....	12.2	91	30	7.6	52.5	5 Sp.	
				Apex.....	9.3	91	30	8.4	53.0	4 Sp.	
				Rescue.....	11.1	91	32	9.0	52.5	5 Sp.	
				Redman.....	11.3	91	29	8.2	50.0	Feed	
Necessary Difference—1.3 bushels.											
MARSHAL G. BOYES, CARNDUFF											
3A.....	1	1	B	Thatcher....	20.4	82	30	—	60.0	1 Nor.	
				Apex.....	19.2	86	30	—	59.5	2 Nor.	
				Rescue.....	18.7	84	30	—	59.5	3 Nor.	
				Redman.....	18.7	80	30	—	59.5	2 Nor.	
Necessary Difference—1.0 bushel.											
JIM R. SHIEL, STORTHOAKS											
3A.....	1	2	A	Thatcher....	13.2	—	—	—	64.5	1 Nor.	
				Apex.....	14.1	—	—	—	65.0	1 Hd.	
				Rescue.....	12.4	—	—	—	64.5	3 Nor.	
				Redman.....	12.5	—	—	—	63.0	1 Nor.	
No significant grain yield difference between varieties.											
ALLAN T. MacFARLANE, GLEN EWEN											
3A.....	1	3	A	Thatcher....	20.9	98	33	8.6	60.5	1 Nor.	
				Apex.....	22.1	98	32	8.6	61.0	1 Nor.	
				Rescue.....	20.3	98	33	9.0	61.0	3 Nor.	
				Redman.....	21.4	98	33	8.8	61.0	1 Nor.	
Necessary Difference—2.4 bushels.											
ELMER C. LAFRENTZ, BIENFAIT											
2A.....	1	4	A	Thatcher....	18.8	—	—	—	62.5	1 Nor.	
				Apex.....	18.6	—	—	—	63.0	1 Nor.	
				Rescue.....	19.2	—	—	—	62.5	3 Nor.	
				Redman.....	17.6	—	—	—	61.0	1 Nor.	
No significant grain yield difference between varieties.											
J. PARKER DUNBAR, ROCHE PERCEE											
2A.....	1	4	B	Thatcher....	14.2	—	—	—	60.0	1 Nor.	
				Apex.....	15.3	—	—	—	61.0	1 Nor.	
				Rescue.....	13.4	—	—	—	60.5	3 Nor.	
				Redman.....	12.8	—	—	—	60.0	2 Nor.	G.
No significant grain yield difference between varieties.											
MISS ANNA M. RAYNER, MACOUN											
2A.....	1	5	A	Thatcher....	13.3	85	28	6.0	61.0	1 Nor.	
				Apex.....	15.8	90	31	8.0	62.0	1 Nor.	
				Rescue.....	15.2	88	31	9.0	62.0	3 Nor.	
				Redman.....	14.9	88	29	8.0	60.5	1 Nor.	
No significant grain yield difference between varieties.											
ELLWOOD E. BARBOUR, MACOUN											
2A.....	1	6	A	Thatcher....	7.1	—	—	—	54.0	4 Sp.	
				Apex.....	5.7	—	—	—	56.0	4 Nor.	
				Rescue.....	7.1	—	—	—	55.5	4 Sp.	
				Redman.....	7.2	—	—	—	53.0	4 Sp.	
Damaged by birds.											
ARNOLD E. OLMSTEAD, MIDALE											
2A.....	1	6	B	Thatcher....	13.8	—	—	—	62.5	1 Nor.	
				Apex.....	18.6	—	—	—	63.5	1 Nor.	
				Rescue.....	17.6	—	—	—	63.0	3 Nor.	
				Redman.....	10.7	—	—	—	62.5	1 Nor.	
No significant grain yield difference between varieties.											
MURDOCK S. McLEOD, MAXIM											
2A.....	1	7	A	Thatcher....	19.0	—	—	—	57.0	3 Nor.	
				Apex.....	16.4	—	—	—	57.0	3 Nor.	
				Rescue.....	20.0	—	—	—	58.5	3 Nor.	
				Redman.....	16.7	—	—	—	53.0	4 Sp.	
No significant grain yield difference between varieties.											

Wheat Pool District 1—Continued

Cereal Variety Zone	Dist.	Sub- Dist.	Test desig- nation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per meas- ured bushel	Com- mercial grades	Grading remarks
MARVIN M. BLOOR, BROMHEAD											
2A.....	1	7	B	Thatcher....	15.6	—	—	—	57.5	3 Nor.	
				Apex.....	12.9	—	—	—	59.0	3 Nor.	F.
				Rescue.....	15.4	—	—	—	58.5	3 Nor.	F.
				Redman....	12.7	—	—	—	56.0	4 Nor.	

No significant grain yield difference between varieties.

MISS MARJORIE G. HEWLETT, GRIFFIN											
2A.....	1	8	A	Thatcher....	30.5	93	36	8.0	59.0	4 Nor.	G.I.
				Apex.....	28.6	94	38	9.0	58.0	No. 5	G.I.
				Rescue.....	25.2	94	38	8.0	58.0	No. 5	G.I.
				Redman....	27.9	92	36	10.0	58.0	No. 5	G.I.

Necessary difference—2.9 bushels.

GLENN E. FLATEN, GRASSDALE											
2A.....	1	8	B	Thatcher....	16.1	—	28	9.0	60.0	2 Nor.	I.
				Apex.....	17.7	—	29	9.6	61.5	3 Nor.	G.I., S.F.
				Rescue.....	15.7	—	30	9.4	60.5	3 Nor.	I.
				Redman....	16.3	—	28	10.0	59.0	2 Nor.	

No significant grain yield difference between varieties.

ALBERT L. LEVESQUE, FORGET											
2A.....	1	9	A	Thatcher....	14.5	—	—	—	57.0	3 Nor.	
				Apex.....	12.7	—	—	—	58.0	2 Nor.	
				Rescue.....	16.2	—	—	—	57.0	3 Nor.	
				Redman....	12.4	—	—	—	57.0	3 Nor.	

Samples bulked.

ALAN M. CARR, ARCOLA											
3A.....	1	9	B	Thatcher....	25.3	99	34	9.0	60.5	1 Nor.	
				Apex.....	26.5	100	35	9.0	62.0	2 Nor.	I.
				Rescue.....	24.0	99	35	9.0	61.5	3 Nor.	G.I.
				Redman....	25.0	99	34	9.0	59.5	2 Nor.	

No significant grain yield difference between varieties.

NORMAN H. BROCK, WORDSWORTH											
3A.....	1	10	A	Thatcher....	25.3	95	29	10.0	58.5	3 Nor.	G.I.
				Apex.....	28.5	95	33	8.0	60.0	2 Nor.	I.
				Rescue.....	25.9	95	33	8.0	58.0	3 Nor.	G.I.
				Redman....	25.9	95	29	10.0	60.0	3 Nor.	G.I.

No significant grain yield difference between varieties.

WHEAT POOL DISTRICT 2

DANIEL A. DEMBICZAK, LAKE ALMA											
1A.....	2	1	A	Thatcher....	10.9	—	—	—	55.0	No. 5	Bl., F.
				Apex.....	11.2	—	—	—	56.0	4 Nor.	Bl., F.
				Rescue.....	13.9	—	—	—	55.5	No. 5	Bl., F.
				Redman....	9.4	—	—	—	54.0	No. 5	Bl., F.

Necessary Difference—2.2 bushels.

JAY A. LARSEN, RADVILLE											
2A.....	2	1	B	Thatcher....	22.4	106	27	7.6	61.5	1 Nor.	
				Apex.....	23.9	106	27	6.2	62.0	1 Nor.	
				Rescue.....	22.1	104	28	8.8	62.5	3 Nor.	
				Redman....	21.4	105	28	7.4	60.5	1 Nor.	

No significant grain yield difference between varieties.

MISS HELEN A. CULVER, HARDY											
2A.....	2	2	A	Thatcher....	14.5	100	31	9.0	51.0	5 Sp.	
				Apex.....	12.3	101	31	9.0	52.0	5 Sp.	
				Rescue.....	11.8	101	31	9.0	52.5	5 Sp.	
				Redman....	13.6	100	32	9.0	49.0	6 Sp.	

Necessary Difference—.8 bushel.

NORMAN F. TRAVLAND, CORONACH											
1A.....	2	3	A	Thatcher....	15.4	101	27	10.0	59.0	2 Nor.	
				Apex.....	15.1	100	26	9.4	60.0	2 Nor.	I.
				Rescue.....	15.6	100	27	10.0	59.0	3 Nor.	
				Redman....	14.6	100	26	9.8	58.5	2 Nor.	

No significant grain yield difference between varieties.

Wheat Pool District 2—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per meas- ured bushel	Com- mercial grades	Grading remarks
MISS GLADYS V. DOBEN, BUFFALO GAP											
1A.....	2	3	B	Thatcher....	14.7	97	24	10.0	58.0	2 Nor.	
				Apex.....	14.1	97	24	5.0	61.0	1 Nor.	
				Rescue.....	12.9	97	24	6.0	59.0	3 Nor.	
				Redman.....	14.4	97	24	8.0	57.0	3 Nor.	
Necessary Difference—1.0 bushel.											
R. BJARNE BAKKE, LISIEUX											
1A.....	2	4	A	Thatcher....	12.8	99	28	9.0	52.0	5 Sp.	
				Apex.....	10.1	101	28	8.0	51.5	5 Sp.	
				Rescue.....	10.4	100	28	7.2	52.0	5 Sp.	
				Redman.....	10.8	100	27	8.4	49.0	6 Sp.	
No significant grain yield difference between varieties.											
R. HARVEY CHESNEY, STRATHALLEN											
1A.....	2	5	B	Thatcher....	6.9	97	17	9.8	56.0	4 Nor.	
				Apex.....	6.3	98	18	10.0	57.0	3 Nor.	
				Rescue.....	5.3	97	17	10.0	57.0	3 Nor.	
				Redman.....	6.1	97	18	9.2	53.5	4 Sp.	
Necessary difference—.8 bushel.											
THOMAS OLLIVER, FIR MOUNTAIN											
1A.....	2	6	A	Thatcher....	4.1	109	12	—	58.0	2 Nor.	
				Apex.....	4.3	108	12	—	57.0	3 Nor.	
				Rescue.....	3.9	110	12	—	56.0	4 Nor.	
				Redman.....	4.8	107	12	—	56.0	4 Nor.	
No significant grain yield difference between varieties.											
CLAUDE V. RAES, FIR MOUNTAIN											
1A.....	2	6	B	Thatcher....	10.7	95	27	8.2	58.5	3 Nor.	Pk., G.
				Apex.....	5.8	95	28	8.4	58.0	3 Nor.	Pk.
				Rescue.....	8.1	95	28	7.8	58.0	3 Nor.	G.
				Redman.....	9.3	95	27	8.0	56.0	4 Nor.	
Necessary difference—2.4 bushels.											
GORDON E. BROEDER, MAXSTONE											
1A.....	2	7	A	Thatcher....	6.7	82	22	8.8	53.0	4 Sp.	
				Apex.....	5.7	82	21	9.0	56.0	4 Nor.	
				Rescue.....	6.0	82	20	10.0	54.0	4 Sp.	
				Redman.....	5.8	82	21	9.0	53.0	4 Sp.	
Necessary difference—.5 bushel.											
JOSEPH A. MARTIN, ORMISTON											
1A.....	2	8	A	Thatcher....	9.0	123	20	10.0	60.0	1 Nor.	
				Apex.....	8.9	123	20	9.0	62.5	1 Nor.	
				Rescue.....	8.5	123	17	10.0	62.5	3 Nor.	
				Redman.....	9.8	116	20	9.0	58.0	2 Nor.	
No significant grain yield difference between varieties.											
K. DWAYNE McBRIDE, VICEROY											
1A.....	2	8	B	Thatcher....	12.2	126	28	9.8	61.0	1 Nor.	
				Apex.....	8.1	129	29	9.6	63.0	1 Nor.	
				Rescue.....	12.3	128	28	9.6	63.0	3 Nor.	
				Redman.....	9.3	127	28	10.0	61.0	1 Nor.	
Necessary difference—1.8 bushels.											
ROBERT A. PARK, DAHINDA											
1A.....	2	9	A	Thatcher....	14.7	99	25	7.2	56.0	4 Nor.	
				Apex.....	14.8	99	24	7.4	58.0	3 Nor.	G.
				Rescue.....	13.5	99	24	9.4	58.0	3 Nor.	S.G.
				Redman.....	14.6	99	25	8.0	57.0	3 Nor.	S.G.
No significant grain yield difference between varieties.											
CHARLES SHULL, OGEMA											
1A.....	2	9	B	Thatcher....	22.1	—	30	—	59.0	2 Nor.	
				Apex.....	20.0	—	30	—	61.0	2 Nor.	G.
				Rescue.....	20.4	—	30	—	61.0	3 Nor.	G.
				Redman.....	21.9	—	30	—	59.0	2 Nor.	
No significant grain yield difference between varieties.											
KENNETH W. LOUCKS, PANGMAN											
1A.....	2	10	A	Thatcher....	13.7	94	36	—	54.0	4 Sp.	D.G.
				Apex.....	11.4	94	33	—	55.5	No. 5	
				Rescue.....	11.8	94	33	—	56.0	4 Nor.	
				Redman.....	12.1	94	33	—	53.0	4 Sp.	
Necessary difference—1.2 bushels.											

Wheat Pool District 2—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed-ing to ripening	Plant height in inches	Straw strength	Lbs. per meas-ured bushel	Com-mercial grades	Grading remarks
FRED J. WEBB, AMULET											
1A.....	2	10	B	Thatcher....	12.6	89	25	7.8	57.5	3 Nor.	
				Apex.....	9.2	88	24	5.8	57.5	3 Nor.	
				Rescue.....	12.8	90	25	9.0	58.5	3 Nor.	
				Redman.....	10.7	90	26	6.8	56.0	4 Nor.	

Necessary difference—1.8 bushels.

Tests discarded on account of damage by drought, pests, hail, or other causes.

1A.....	2	5	A	John A. Rayner, Killdeer.							
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WHEAT POOL DISTRICT 3

HAROLD N. WILSON, McCORD											
1A.....	3	1	A	Thatcher....	10.4	85	21	10.0	50.0	6 Sp.	
				Apex.....	9.2	85	22	10.0	51.5	5 Sp.	
				Rescue.....	8.8	85	21	10.0	50.0	6 Sp.	
				Redman.....	9.7	85	21	10.0	48.0	Feed	

No significant grain yield difference between varieties.

WILFRED F. ELLIS, RELIANCE											
1A.....	3	2	A	Thatcher....	8.9	106	19	8.4	56.0	4 Nor.	
				Apex.....	7.7	107	19	8.6	57.0	3 Nor.	
				Rescue.....	7.7	106	18	8.6	56.0	4 Nor.	
				Redman.....	8.9	106	19	7.2	55.0	4 Sp.	

No significant grain yield difference between varieties.

DONALD E. NEELY, CARNAGH											
2C.....	3	6	B	Thatcher....	17.0	91	25	10.0	62.0	No. 6	F.
				Apex.....	16.4	94	25	9.0	62.5	No. 6	F.
				Rescue.....	14.4	94	25	9.0	61.0	No. 6	F.
				Redman.....	11.8	92	25	10.0	62.5	No. 5	F.

Necessary difference—2.1 bushels.

HAROLD A. O'BRIEN, STONE											
2C.....	3	7	A	Thatcher....	3.1	—	—	—	57.5	3 Nor.	
				Apex.....	2.3	—	—	—	60.5	2 Nor.	I.
				Rescue.....	2.6	—	—	—	60.5	3 Nor.	
				Redman.....	3.9	—	—	—	56.0	4 Nor.	

Necessary difference—.8 bushel.

ALAN TOMLINSON, CRICHTON											
1A.....	3	9	A	Thatcher....	2.5	115	17	9.8	54.0	4 Sp.	
				Apex.....	3.1	115	17	8.2	53.0	4 Sp.	
				Rescue.....	2.7	114	17	9.0	52.0	5 Sp.	
				Redman.....	3.2	114	17	10.0	52.0	5 Sp.	

No significant grain yield difference between varieties.

EVERETT R. KING, BEAVER VALLEY											
1A.....	3	9	B	Thatcher....	1.1	111	21	7.0	*	(E) 4 Nor.	
				Apex.....	1.2	112	21	7.0	*	(E) 3 Nor.	
				Rescue.....	1.3	112	21	7.0	*	(E) 3 Nor.	
				Redman.....	1.1	114	21	7.0	*	(E) 4 Nor.	

Badly hailed.

Tests discarded on account of damage by drought, pests, hail, or other causes.

1A.....	3	1	B	Neil A. Gillespie, Mankota.							
1A.....	3	3	A	Allen Bitschy, Climax.							
1A.....	3	5	A	Lloyd Brunen, Robsart.							
1A.....	3	5	B	Eiliv H. Anderson, Robsart.							
1A.....	3	6	A	Charles J. Fletcher, Ravenscrag.							
1A.....	3	8	A	J. Douglas McCaig, Scotsguard.							

WHEAT POOL DISTRICT 4

MISS MARGARET M. EARL, SIDEWOOD											
1B.....	4	1	B	Thatcher....	7.9	—	—	—	62.0	1 Nor.	
				Apex.....	9.0	—	—	—	62.5	1 Nor.	
				Rescue.....	7.8	—	—	—	62.0	3 Nor.	
				Redman.....	8.8	—	—	—	60.0	2 Nor.	G.

No significant grain yield difference between varieties.

* —Insufficient to calculate bushel weight.
(E) —Estimated grade.

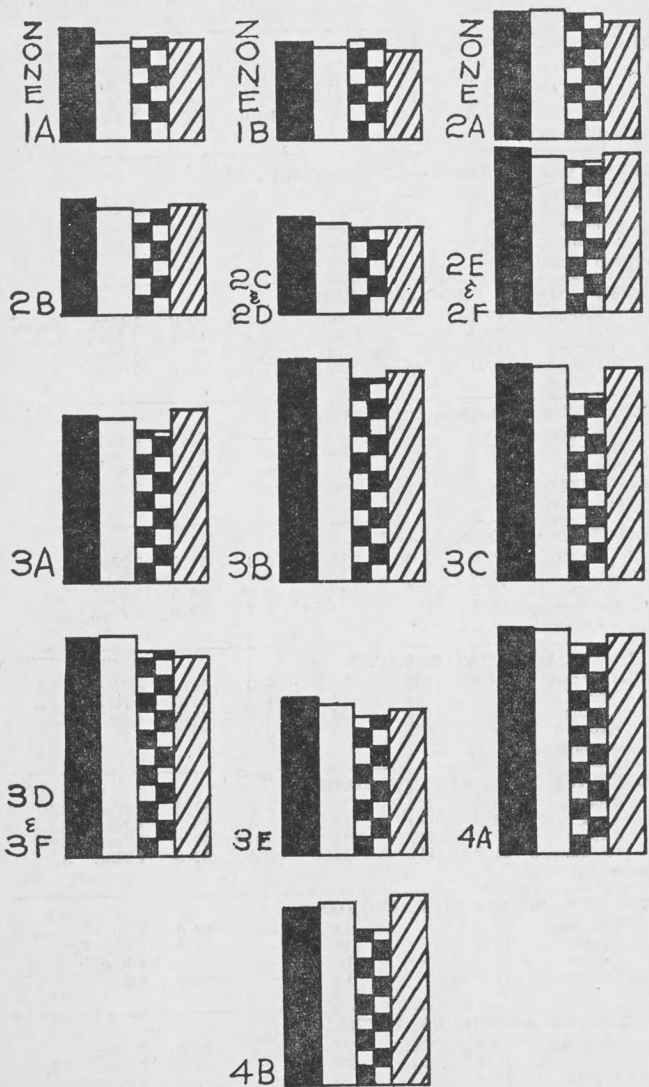
Wheat Pool District 4—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per measured bushel	Com- mercial grades	Grading remarks
MISS LILLY I. HONSVALL, TOMPKINS											
1A.....	4	1	C	Thatcher....	10.2	117	28	7.6	56.0	4 Nor.	G.,F.
				Apex.....	10.0	118	31	8.0	57.5	4 Nor.	G.,D.F.
				Rescue.....	10.5	118	29	8.4	57.0	4 Nor.	G.,I.,F.
				Redman.....	9.7	117	29	9.0	56.0	4 Nor.	G.,I.
No significant grain yield difference between varieties.											
WILFRED A. SANDAU, MAPLE CREEK											
1B.....	4	2	A	Thatcher....	4.2	88	16	8.4	52.0	5 Sp.	
				Apex.....	2.6	88	15	8.8	52.5	5 Sp.	
				Rescue.....	7.5	88	17	9.6	54.0	4 Sp.	
				Redman.....	2.8	88	15	8.4	52.0	5 Sp.	
Necessary difference—.6 bushel.											
MISS SHIRLEY A. MOCH, HATTON											
1B.....	4	2	B	Thatcher....	11.5	—	—	—	55.0	4 Sp.	
				Apex.....	10.5	—	—	—	56.5	4 Nor.	
				Rescue.....	11.4	—	—	—	56.0	4 Nor.	
				Redman.....	9.6	—	—	—	54.0	4 Sp.	
No significant grain yield difference between varieties.											
VICTOR G. SKYE, CARDELL											
1B.....	4	2	C	Thatcher....	11.6	—	—	—	61.0	1 Nor.	
				Apex.....	12.5	—	—	—	62.5	1 Nor.	
				Rescue.....	16.8	—	—	—	62.5	3 Nor.	
				Redman.....	11.1	—	—	—	60.0	1 Nor.	
Necessary difference—2.3 bushels.											
HARRY W. DOSSO, GULL LAKE											
1A.....	4	4	A	Thatcher....	14.9	95	35	8.0	58.0	2 Nor.	
				Apex.....	15.1	100	35	9.0	59.0	2 Nor.	
				Rescue.....	15.1	100	35	8.0	60.0	3 Nor.	
				Redman.....	13.9	100	35	10.0	57.0	3 Nor.	
No significant grain yield difference between varieties.											
MISS AGNES V. SKOG, TOMPKINS											
1A.....	4	4	B	Thatcher....	2.6	90	18	8.6	57.0	3 Nor.	
				Apex.....	3.1	90	19	8.2	58.0	2 Nor.	
				Rescue.....	4.5	90	20	8.2	58.0	3 Nor.	
				Redman.....	3.3	90	17	8.6	56.0	4 Nor.	
Badly damaged by shattering.											
BERNHARD V. POWELL, GOLDEN PRAIRIE											
1B.....	4	6	A	Thatcher....	12.4	—	19	10.0	62.5	1 Nor.	
				Apex.....	14.3	—	19	10.0	63.5	1 Nor.	
				Rescue.....	12.1	—	16	10.0	63.0	3 Nor.	
				Redman.....	14.1	—	19	10.0	61.5	1 Nor.	
No significant grain yield difference between varieties.											
ALBERT UNRATH, GOLDEN PRAIRIE											
1B.....	4	6	B	Thatcher....	10.7	—	—	—	57.0	3 Nor.	
				Apex.....	7.2	—	—	—	58.0	2 Nor.	
				Rescue.....	14.4	—	—	—	57.0	3 Nor.	
				Redman.....	7.5	—	—	—	56.0	4 Nor.	
Necessary difference—1.7 bushels.											
MELVIN MUTSCHLER, FOX VALLEY											
1B.....	4	7	A	Thatcher....	26.4	94	34	9.0	59.0	2 Nor.	
				Apex.....	23.6	97	34	8.0	58.0	2 Nor.	
				Rescue.....	23.7	97	34	9.0	57.0	3 Nor.	
				Redman.....	22.3	94	35	9.0	58.0	2 Nor.	
Necessary difference—1.2 bushels.											
CHARLIE BAUER, BURSTALL											
1B.....	4	8	A	Thatcher....	18.4	91	21	7.2	58.5	2 Nor.	
				Apex.....	19.2	91	21	7.6	58.5	2 Nor.	
				Rescue.....	17.3	91	21	8.6	59.0	3 Nor.	
				Redman.....	18.0	91	21	6.8	56.0	4 Nor.	
Necessary difference—.9 bushel.											
WENDELL A. KOST, LEMS FORD											
1A.....	4	9	A	Thatcher....	34.7	113	32	5.0	60.0	1 Nor.	
				Apex.....	31.3	113	32	2.6	60.0	1 Nor.	
				Rescue.....	33.4	113	32	8.0	60.0	3 Nor.	
				Redman.....	32.3	113	32	5.0	58.0	2 Nor.	
Necessary difference—1.1 bushels.											
Tests discarded on account of damage by drought, pests, hail or other causes.											
1A.....	4	1	A	Miss Helen Wolfater, Sidewood.							

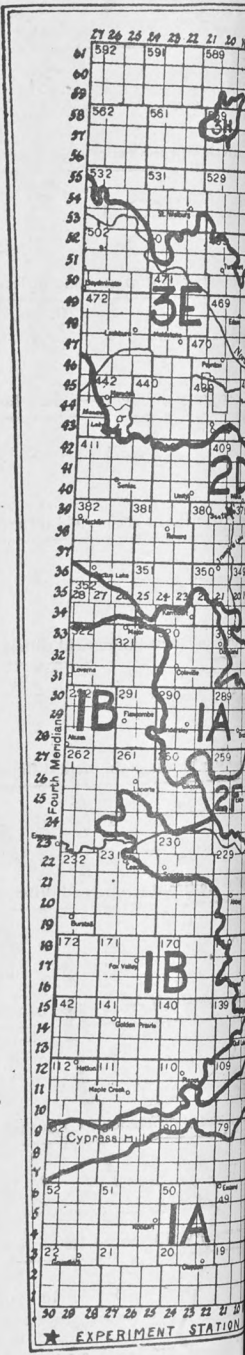
WHEAT POOL DISTRICT 5

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per meas- ured bushel	Com- mercial grades	Grading remarks
DOUGLAS W. PATTERSON, MOSSBANK											
1A.....	5	1	A	Thatcher....	15.7	114	21	10.0	59.0	2 Nor.	
				Apex.....	14.0	114	20	9.8	60.5	1 Nor.	
				Rescue.....	15.1	114	21	9.6	60.0	3 Nor.	
				Redman.....	15.3	114	20	10.0	57.0	3 Nor.	
No significant grain yield difference between varieties.											
VERNON OEHLERKING, GRAVELBOURG											
1A.....	5	2	A	Thatcher....	9.8	—	—	—	55.0	4 Sp.	
				Apex.....	7.5	—	—	—	58.0	2 Nor.	
				Rescue.....	9.3	—	—	—	57.0	3 Nor.	
				Redman.....	8.6	—	—	—	53.5	4 Sp.	
No significant grain yield difference between varieties.											
MISS LEONA B. VEER, WALDECK											
1A.....	5	4	A	Thatcher....	17.1	—	28	6.6	60.0	2 Nor.	BL.S.G
				Apex.....	20.3	—	29	9.4	63.5	1 Nor.	S.G.
				Rescue.....	17.8	—	28	7.6	62.0	3 Nor.	G.
				Redman.....	17.1	—	29	7.0	60.0	2 Nor.	G.
Necessary difference—1.8 bushels.											
CLARENCE A. BOCHEK, HODGEVILLE											
1A.....	5	5	A	Thatcher....	14.2	—	—	—	54.0	4 Sp.	
				Apex.....	12.7	—	—	—	54.5	4 Sp.	
				Rescue.....	11.9	—	—	—	54.0	4 Sp.	
				Redman.....	13.7	—	—	—	51.5	5 Sp.	
No significant grain yield difference between varieties.											
ARTHUR ARNOLD, SHAMROCK											
1A.....	5	5	B	Thatcher....	15.9	104	25	6.4	59.0	2 Nor.	
				Apex.....	15.0	106	28	6.4	60.0	1 Nor.	
				Rescue.....	16.5	105	28	9.0	60.0	3 Nor.	
				Redman.....	16.2	105	24	6.2	58.0	2 Nor.	
No significant grain yield difference between varieties.											
C. STUART COATES, CARON											
1A.....	5	7	A	Thatcher....	14.8	102	25	8.0	56.0	4 Nor.	
				Apex.....	13.5	103	24	7.2	57.0	3 Nor.	S.G.
				Rescue.....	13.3	103	24	10.0	55.0	4 Sp.	
				Redman.....	14.2	103	26	8.0	53.5	4 Sp.	
No significant grain yield difference between varieties.											
ARTHUR E. DE LA HEY, TUXFORD											
2E.....	5	8	A	Thatcher....	34.1	117	35	9.6	61.5	1 Nor.	S.F.
				Apex.....	32.3	117	36	8.4	63.0	1 Nor.	S.I.
				Rescue.....	32.7	117	35	9.0	62.5	3 Nor.	S.F.
				Redman.....	31.8	117	35	9.4	62.0	1 Nor.	S.I.
No significant grain yield difference between varieties.											
PATRICK F. WILLIAMS, HALVORGATE											
1A.....	5	9	A	Thatcher....	13.7	—	12	—	54.0	4 Sp.	
				Apex.....	10.0	—	12	—	55.5	4 Sp.	
				Rescue.....	12.3	—	12	—	56.5	4 Nor.	
				Redman.....	12.2	—	12	—	50.0	6 Sp.	
Necessary difference—1.8 bushels.											
WALTER J. SANDERS, UREN											
1A.....	5	9	B	Thatcher....	19.1	100	29	—	59.0	2 Nor.	
				Apex.....	15.4	102	29	—	60.0	2 Nor.	S.I.
				Rescue.....	15.8	102	30	—	61.0	3 Nor.	
				Redman.....	16.5	99	31	—	58.0	2 Nor.	
Necessary difference—1.3 bushels.											
JOHN A. GOODING, CENTRAL BUTTE											
1A.....	5	9	C	Thatcher....	14.2	98	31	10.0	56.0	4 Nor.	
				Apex.....	9.9	96	29	9.4	55.0	4 Sp.	
				Rescue.....	10.7	96	29	10.0	57.5	3 Nor.	
				Redman.....	10.1	97	30	9.0	48.0	Feed	
Necessary difference—1.6 bushels.											
JOHN R. SMITH, CALDERBANK											
1A.....	5	10	A	Thatcher....	37.5	104	36	10.0	62.0	1 Nor.	
				Apex.....	31.7	107	35	8.4	63.0	1 Nor.	S.G.
				Rescue.....	30.0	107	32	8.2	63.0	3 Nor.	G.
				Redman.....	31.7	104	30	10.0	61.5	2 Nor.	G.
Necessary difference—3.2 bushels.											

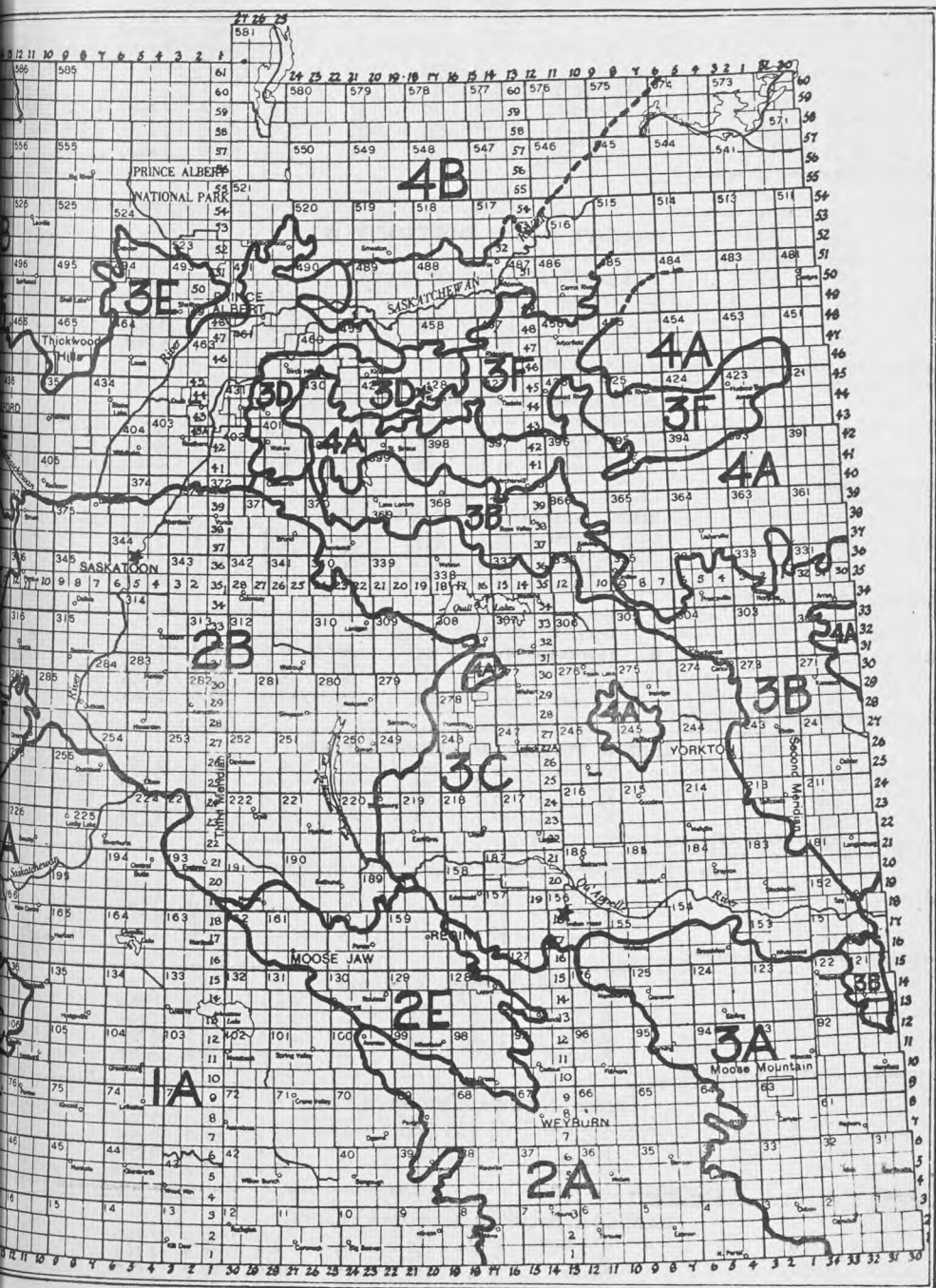
HISTOGRAMS SHOWING RELATIVE WHEAT YIELDS



THATCHER ■ APEX □ RESCUE ▣ REDMAN ▨



Cereal Variety Zones of Saskatchewan



Wheat Pool District 5—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed-ing to ripening	Plant height in inches	Straw strength	Lbs. per measured bushel	Com-mercial grades	Grading remarks
HENRY UNGER, ERFOLD											
1A.....	5	10	B	Thatcher....	24.6	107	28	8.0	60.5	2 Nor.	B.C.
				Apex.....	20.2	107	27	7.4	63.0	2 Nor.	S.F.
				Rescue.....	22.0	108	27	6.8	62.5	3 Nor.	S.F.
				Redman.....	23.2	104	27	7.8	59.0	3 Nor.	G., Pk.

Necessary difference—1.0 bushel.

WHEAT POOL DISTRICT 6

CLINTON D. HOUSTON, TYVAN											
2A.....	6	1	A	Thatcher....	18.0	106	31	8.2	58.0	2 Nor.	
				Apex.....	17.5	105	31	8.4	59.0	2 Nor.	
				Rescue.....	17.2	105	31	8.4	58.5	3 Nor.	
				Redman.....	18.5	104	32	8.6	56.0	4 Nor.	

No significant grain yield difference between varieties.

MISS ROSELYN BIEGLER, VIBANK											
2A.....	6	2	A	Thatcher....	27.0	98	41	9.8	61.0	4 Nor.	G.I., S.F.
				Apex.....	24.0	98	41	9.8	61.5	No. 5	D.F.
				Rescue.....	22.9	98	39	9.2	60.0	No. 5	D.F.
				Redman.....	23.1	98	37	8.8	58.5	4 Nor.	G.I., F.

Samples incomplete.

MISS THELMA L. TERRY, WILCOX											
2E.....	6	3	A	Thatcher....	24.2	106	36	10.0	58.0	2 Nor.	
				Apex.....	23.1	105	35	10.0	60.0	1 Nor.	
				Rescue.....	20.3	105	34	10.0	59.0	3 Nor.	
				Redman.....	24.0	106	35	10.0	57.0	3 Nor.	

Necessary difference—2.2 bushels.

DWIGHT N. DAY, WILCOX											
2E.....	6	3	B	Thatcher....	28.7	111	39	9.2	60.0	1 Nor.	
				Apex.....	25.0	112	39	9.2	60.0	2 Nor.	G.
				Rescue.....	25.4	111	38	10.0	60.0	3 Nor.	
				Redman.....	26.7	111	39	10.0	58.0	2 Nor.	

Necessary difference—2.1 bushels.

JOHN W. FILAZEK, Jr., SPRING VALLEY											
1A.....	6	4	A	Thatcher....	24.9	90	30	9.0	61.5	1 Nor.	
				Apex.....	24.0	91	31	9.0	62.0	2 Nor.	Pk.
				Rescue.....	22.2	90	32	9.0	61.0	3 Nor.	G.
				Redman.....	22.7	91	30	9.0	61.0	2 Nor.	G.

No significant grain yield difference between varieties.

MISS A. PATRICIA HUNT, MOOSE JAW (BILDON)											
1A.....	6	5	A	Thatcher....	29.3	—	35	—	63.5	2 Nor.	G.I.
				Apex.....	25.6	—	38	—	64.0	3 Nor.	D.G.I.
				Rescue.....	31.2	—	41	—	63.0	3 Nor.	D.G.I.
				Redman.....	27.2	—	35	—	63.0	3 Nor.	D.G.I.

Necessary difference—2.9 bushels.

STANLEY R. GREEN, BOHARM											
2E.....	6	5	B	Thatcher....	27.6	89	29	9.6	60.0	1 Nor.	
				Apex.....	24.1	98	29	9.6	60.0	1 Nor.	
				Rescue.....	22.6	98	29	9.6	58.5	3 Nor.	
				Redman.....	25.9	89	28	10.0	58.5	2 Nor.	

Necessary difference—1.4 bushels.

VERNON C. FOWKE, DRINKWATER											
2E.....	6	6	A	Thatcher....	17.3	108	27	8.6	58.0	2 Nor.	
				Apex.....	15.5	110	28	8.6	61.0	1 Nor.	
				Rescue.....	17.2	113	28	7.6	60.0	3 Nor.	
				Redman.....	17.1	112	28	8.4	57.0	3 Nor.	

Damaged by stock. Yields incomplete.

HAROLD E. MATTIES, VICTORIA PLAINS											
2E.....	6	7	A	Thatcher....	20.0	109	32	6.8	60.5	1 Nor.	
				Apex.....	23.7	112	37	7.6	61.5	1 Nor.	
				Rescue.....	19.6	110	36	10.0	60.5	3 Nor.	
				Redman.....	23.0	110	34	7.4	61.0	1 Nor.	

Necessary difference—1.0 bushel.

Wheat Pool District 6—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per measured bushel	Com- mercial grades	Grading remarks
GORDON R. LAUGHLAND, QU'APPELLE											
3C.....	6	8	A	Thatcher....	40.6	100	42	8.0	60.0	2 Nor.	G.
				Apex.....	30.7	105	45	9.0	58.0	3 Nor.	G.
				Rescue.....	31.1	101	44	7.0	58.0	3 Nor.	Pk.
				Redman....	36.9	103	43	10.0	58.0	3 Nor.	G.
Necessary difference—1.9 bushels.											
ROBERT S. DAVIES, AVONHURST											
3C.....	6	8	B	Thatcher....	23.5	—	—	—	62.0	1 Nor.	
				Apex.....	25.8	—	—	—	64.0	1 Hd.	
				Rescue.....	22.3	—	—	—	63.0	3 Nor.	
				Redman....	23.8	—	—	—	62.0	2 Nor.	G.
No significant grain yield difference between varieties.											
JOHN A. LEIB, CRAVEN											
3C.....	6	10	A	Thatcher....	19.0	106	37	—	58.5	2 Nor.	
				Apex.....	18.7	106	37	—	59.5	2 Nor.	
				Rescue.....	17.3	106	37	—	59.5	3 Nor.	
				Redman....	19.8	106	37	—	58.0	2 Nor.	
No significant grain yield difference between varieties.											
LOU JOORISITY, BETHUNE											
2B.....	6	10	B	Thatcher....	12.8	97	32	9.8	58.0	3 Nor.	G.I.
				Apex.....	12.2	96	32	9.8	59.0	4 Nor.	G.I.
				Rescue.....	12.0	95	32	9.8	59.0	3 Nor.	G.I.
				Redman....	13.4	97	30	9.6	58.0	4 Nor.	G.I.
No significant grain yield difference between varieties.											
MISS OLIVE E. THOMPSON, DISLEY											
2B.....	6	10	C	Thatcher....	19.4	100	33	6.4	62.0	1 Nor.	
				Apex.....	20.0	102	34	9.0	62.5	1 Nor.	
				Rescue.....	17.4	102	36	7.0	61.0	3 Nor.	
				Redman....	21.7	98	33	10.0	61.0	1 Nor.	S.Pk.
Necessary difference—2.3 bushels.											

WHEAT POOL DISTRICT 7

C. ROY CUTHILL, FLEMING											
3A.....	7	2	A	Thatcher....	23.8	—	37	8.6	60.0	1 Nor.	S.E.
				Apex.....	25.3	—	38	8.0	61.0	1 Nor.	S.E.
				Rescue.....	21.8	—	39	8.4	60.0	3 Nor.	
				Redman....	28.2	—	40	9.0	59.0	2 Nor.	S.E.
Necessary difference—1.6 bushels.											
JAMES R. and JOHN H. DOVELL, LANGBANK											
3A.....	7	3	A	Thatcher....	9.3	—	—	—	59.0	2 Nor.	
				Apex.....	13.3	—	—	—	61.0	1 Nor.	
				Rescue.....	20.1	—	—	—	61.5	3 Nor.	
				Redman....	14.1	—	—	—	58.5	2 Nor.	
Damaged.											
HERMAN H. PACHAL, KIPLING											
3A.....	7	4	A	Thatcher....	23.5	112	39	—	59.0	2 Nor.	
				Apex.....	24.3	112	34	—	60.0	2 Nor.	S.F.
				Rescue.....	19.0	112	35	—	59.0	3 Nor.	
				Redman....	28.8	112	39	—	57.5	3 Nor.	
Necessary difference—5.2 bushels.											
STANLEY R. GLYDON, KIPLING											
3A.....	7	4	B	Thatcher....	24.0	101	35	10.0	57.0	3 Nor.	
				Apex.....	24.9	101	37	10.0	58.0	2 Nor.	
				Rescue.....	21.8	100	36	9.0	57.0	3 Nor.	
				Redman....	28.4	101	35	9.8	60.0	3 Nor.	G.I.
Necessary difference—1.2 bushels.											
CHARLES McK. DUTHIE, CREELMAN											
2A.....	7	5	A	Thatcher....	18.3	103	—	8.0	61.0	1 Nor.	
				Apex.....	19.2	103	—	8.0	62.5	1 Nor.	
				Rescue.....	20.5	103	—	9.0	62.0	3 Nor.	
				Redman....	18.6	103	—	8.0	60.5	1 Nor.	
No significant grain yield difference between varieties.											

Wheat Pool District 7—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per measured bushel	Com- mercial grades	Grading remarks
JOHN G. HENGEN, PEEBLES											
3A.....	7	6	A	Thatcher.....	27.8	110	32	10.0	58.0	2 Nor.	
				Apex.....	23.9	111	34	10.0	59.0	2 Nor.	
				Rescue.....	23.4	110	33	10.0	58.0	3 Nor.	
				Redman.....	27.7	110	31	10.0	58.0	2 Nor.	S.G.
Necessary difference—1.3 bushels.											
ARNOLD L. BIEBER, MONTMARTRE											
2A.....	7	6	B	Thatcher.....	11.7	88	27	10.0	60.0	1 Nor.	
				Apex.....	12.2	88	28	10.0	60.5	1 Nor.	
				Rescue.....	11.0	89	26	10.0	60.0	3 Nor.	
				Redman.....	11.9	89	26	10.0	58.5	2 Nor.	
Necessary difference—.5 bushel.											
C. HENRY HOOD, WOLSELEY											
3A.....	7	7	A	Thatcher.....	33.9	106	36	9.5	59.5	3 Nor.	G.I.
				Apex.....	30.9	110	40	9.5	61.0	3 Nor.	G.I.
				Rescue.....	30.2	110	41	9.0	60.0	3 Nor.	G.I.
				Redman.....	32.2	106	36	9.5	58.0	3 Nor.	D.G.I.
No significant grain yield difference between varieties.											
MISS MADELINE V. HOWARTH, BROADVIEW											
3A.....	7	7	B	Thatcher.....	26.4	102	35	9.4	60.5	1 Nor.	
				Apex.....	22.7	104	36	9.6	62.0	1 Nor.	
				Rescue.....	22.3	102	36	9.0	60.5	3 Nor.	
				Redman.....	25.6	102	34	9.8	61.0	2 Nor.	G.
No significant grain yield difference between varieties.											
H. ROSS KINGDON, BEAR CREEK											
3C.....	7	8	A	Thatcher.....	35.5	103	39	9.0	59.5	2 Nor.	
				Apex.....	35.0	106	39	9.0	60.5	1 Nor.	
				Rescue.....	22.8	105	40	8.4	59.0	3 Nor.	
				Redman.....	40.8	105	40	9.0	59.0	2 Nor.	
Necessary difference—2.6 bushels.											
MISS A. JOYCE DAVIES, WHITEWOOD											
3C.....	7	8	B	Thatcher.....	19.4	96	32	10.0	63.0	1 Nor.	
				Apex.....	16.7	98	32	10.0	64.0	1 Nor.	
				Rescue.....	16.6	96	35	9.2	63.0	3 Nor.	
				Redman.....	16.8	95	32	10.0	62.5	1 Nor.	
Necessary difference—1.6 bushels.											
GEORGE E. SCHENTAG, YARBO											
3C.....	7	9	A	Thatcher.....	36.4	106	35	9.0	61.0	3 Nor.	G.I.
				Apex.....	44.3	110	36	9.0	62.0	3 Nor.	G.I.
				Rescue.....	35.7	107	36	7.8	61.0	4 Nor.	G.I.
				Redman.....	39.3	106	35	9.0	61.5	3 Nor.	G.I.
Necessary difference—3.0 bushels.											
JOSEPH M. TOTHE, ESTERHAZY											
3C.....	7	10	A	Thatcher.....	34.6	99	34	10.0	61.5	2 Nor.	G.I.
				Apex.....	38.6	99	35	8.4	62.5	2 Nor.	G.I.
				Rescue.....	37.5	98	36	8.4	61.5	3 Nor.	G.I.
				Redman.....	32.5	98	33	9.6	62.0	2 Nor.	G.I.
Necessary difference—2.4 bushels.											
LEROY WENDELL, NEUDORF											
3C.....	7	11	A	Thatcher.....	30.0	103	36	9.4	62.0	1 Nor.	
				Apex.....	30.2	104	39	8.8	62.0	1 Nor.	
				Rescue.....	27.7	101	37	7.4	62.0	3 Nor.	
				Redman.....	30.8	103	36	10.0	61.0	1 Nor.	
Necessary difference—.9 bushel.											

WHEAT POOL DISTRICT 8

LEONARD ADAMS, MacNUTT											
3B.....	8	1	A	Thatcher.....	39.8	86	36	8.0	63.0	1 Nor.	
				Apex.....	37.5	87	39	8.0	63.0	2 Nor.	G.
				Rescue.....	34.9	88	35	7.0	61.5	3 Nor.	G.I.
				Redman.....	35.8	87	37	9.0	62.5	2 Nor.	B.C.
No significant grain yield difference between varieties.											
JAMES J. ROONEY, SALTCOATS											
3B.....	8	2	A	Thatcher.....	24.7	—	28	8.0	56.0	No. 6	F.
				Apex.....	26.4	—	28	8.0	56.0	No. 6	F.
				Rescue.....	19.2	—	28	10.0	54.0	Feed	F.
				Redman.....	26.1	—	28	10.0	57.0	No. 6	F.
Necessary difference—2.4 bushels.											

Wheat Pool District 8—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per measured bushel	Com- mercial grades	Grading remarks
GEORGE E. LAZURKO, WILLOWBROOK											
3C.....	8	4	A	Thatcher....	14.4	—	—	—	63.0	1 Nor.	
				Apex.....	15.5	—	—	—	64.0	1 Nor.	
				Rescue.....	12.9	—	—	—	64.0	3 Nor.	
				Redman.....	13.0	—	—	—	63.0	1 Nor.	
No significant grain yield difference between varieties.											
WALTER H. TOMILIN, VERIGIN											
3B.....	8	5	A	Thatcher....	41.4	103	—	—	63.0	2 Nor.	Pk.
				Apex.....	44.5	104	—	—	63.0	1 Nor.	S.Pk.
				Rescue.....	39.0	101	—	—	62.0	3 Nor.	
				Redman.....	40.0	101	—	—	62.0	2 Nor.	Pk.
Damaged by birds. Samples incomplete.											
NICK N. SHUKIN, BUCHANAN											
3C.....	8	6	A	Thatcher....	23.7	—	—	—	63.0	2 Nor.	G.I.
				Apex.....	22.7	—	—	—	63.0	3 Nor.	G.I.
				Rescue.....	22.1	—	—	—	62.0	3 Nor.	G.I.
				Redman.....	23.7	—	—	—	61.5	3 Nor.	G.I.
Damaged by cattle.											
TEDDY W. WASYLYSHEN, GORLITZ											
3C.....	8	6	B	Thatcher....	49.6	115	36	7.6	63.5	2 Nor.	I.,S.E.
				Apex.....	51.5	115	38	8.0	63.5	3 Nor.	D.I.
				Rescue.....	45.3	115	37	6.4	62.5	3 Nor.	I.
				Redman.....	46.9	114	37	9.4	62.0	2 Nor.	I.
No significant grain yield difference between varieties.											
MISS STEFFIE KOTYK, RAMA											
3C.....	8	7	A	Thatcher....	54.7	—	43	9.6	61.5	4 Nor.	G.
				Apex.....	45.2	—	42	9.2	62.0	No. 5	D.G.
				Rescue.....	35.3	—	43	4.0	59.5	No. 5	D.G.
				Redman.....	49.4	—	44	10.0	60.0	No. 5	D.G.
Necessary difference—4.1 bushels.											
NEIL M. DEAN, RAMA											
3B.....	8	7	B	Thatcher....	43.4	—	42	9.6	63.0	1 Nor.	
				Apex.....	40.3	—	42	9.2	64.0	1 Nor.	
				Rescue.....	41.9	—	42	8.2	62.5	3 Nor.	
				Redman.....	41.0	—	42	8.4	63.0	1 Nor.	
No significant grain yield difference between varieties.											
ALVIN E. SJOLIE, STURGIS											
3B.....	8	8	A	Thatcher....	29.3	104	32	9.0	64.5	1 Nor.	
				Apex.....	33.8	104	30	9.0	64.5	1 Nor.	
				Rescue.....	27.6	107	32	6.0	65.0	3 Nor.	
				Redman.....	27.0	104	32	9.0	64.0	1 Nor.	
Necessary difference—2.1 bushels.											
HARRY J. YAREMCHUCK, HINCHLIFE											
4A.....	8	8	B	Thatcher....	40.4	—	—	—	60.5	4 Nor.	F.
				Apex.....	40.4	—	—	—	61.0	No. 5	F.
				Rescue.....	36.7	—	—	—	59.0	No. 5	F.
				Redman.....	32.0	—	—	—	59.0	No. 5	F.
Necessary difference—4.0 bushels.											
ROBERT W. WYLIE, NORQUAY											
3B.....	8	9	A	Thatcher....	39.8	109	44	10.0	62.5	2 Nor.	I., S F
				Apex.....	38.9	109	43	9.0	63.0	3 Nor.	I., F.
				Rescue.....	36.8	109	47	6.0	61.5	3 Nor.	I., F.
				Redman.....	40.2	109	45	10 0	62.0	3 Nor.	G.I., F
No significant grain yield difference between varieties.											
BORIS J. STRELCHUK, ARRAN											
4A.....	8	10	A	Thatcher....	44.0	93	39	9.4	63.0	2 Nor.	Stch.
				Apex.....	44.0	97	40	9.2	63.0	3 Nor.	Stch.
				Rescue.....	40.3	99	41	7.8	63.0	3 Nor.	Stch.
				Redman.....	39.8	91	37	10.0	63.0	3 Nor.	Stch., I
Damaged by birds. Samples incomplete.											

WHEAT POOL DISTRICT 9

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per meas- ured bushel	Com- mercial grades	Grading remarks
SLAWKO SMYCNIUK, BEDFORDVILLE											
3C.....	9	1	A	Thatcher....	45.7	110	—	8.2	64.0	1 Nor.	
				Apex.....	50.7	111	—	7.0	64.5	1 Nor.	
				Rescue.....	41.1	110	—	2.8	65.0	3 Nor.	
				Redman.....	49.3	110	—	7.2	64.5	2 Nor.	G.,Stch
Necessary difference—3.4 bushels.											
JOE H. HILLIAR, ITUNA											
3C.....	9	1	B	Thatcher....	35.0	83	36	9.0	62.5	1 Nor.	
				Apex.....	38.5	83	36	9.0	63.5	1 Nor.	
				Rescue.....	29.5	83	36	9.0	63.0	3 Nor.	
				Redman.....	35.4	83	36	9.0	63.0	1 Nor.	
Necessary difference—4.7 bushels.											
C. PERRY DEMOREST, SOUTHEY											
3C.....	9	2	A	Thatcher....	11.0	96	28	7.0	58.5	2 Nor.	
				Apex.....	9.6	97	29	6.4	58.0	2 Nor.	
				Rescue.....	10.9	96	29	7.0	59.0	3 Nor.	
				Redman.....	10.3	96	27	6.4	58.0	2 Nor.	
No significant grain yield difference between varieties.											
FREDERICK W. GEORGE, LEROSS											
3C.....	9	3	A	Thatcher....	33.8	113	40	8.6	62.0	1 Nor.	
				Apex.....	38.0	114	41	8.6	63.0	1 Nor.	
				Rescue.....	28.0	115	41	6.6	61.5	3 Nor.	
				Redman.....	37.7	114	42	8.8	63.0	1 Nor.	
Necessary difference—2.0 bushels.											
ERNEST SCHERLIE, EARL GREY											
3C.....	9	4	A	Thatcher....	15.8	—	—	—	56.0	4 Nor.	
				Apex.....	14.6	—	—	—	59.0	2 Nor.	
				Rescue.....	12.0	—	—	—	59.0	3 Nor.	
				Redman.....	13.7	—	—	—	54.0	4 Sp.	
Necessary difference—1.3 bushels.											
RICHARD CARDIFF, CYMRIC											
2B.....	9	5	A	Thatcher....	20.7	—	—	—	59.0	2 Nor.	
				Apex.....	22.2	—	—	—	61.0	1 Nor.	
				Rescue.....	19.0	—	—	—	59.0	3 Nor.	
				Redman.....	23.6	—	—	—	57.5	3 Nor.	S.G.
Necessary difference—1.1 bushels.											
PHILIP DABROWSKI, GOVAN											
2B.....	9	5	B	Thatcher....	18.5	—	—	—	60.0	2 Nor.	Bl.
				Apex.....	17.6	—	—	—	62.0	1 Nor.	S.F.
				Rescue.....	16.2	—	—	—	61.0	3 Nor.	F.
				Redman.....	18.8	—	—	—	59.0	2 Nor.	
Necessary difference—1.0 bushel.											
EMANUEL J. LASHER, GOVAN											
2B.....	9	6	A	Thatcher....	14.2	103	22	9.2	59.0	2 Nor.	
				Apex.....	11.5	103	22	9.2	60.0	1 Nor.	
				Rescue.....	13.7	103	21	9.2	60.0	3 Nor.	
				Redman.....	10.6	103	21	9.2	56.0	4 Nor.	Bl.,S.F.
Necessary difference—1.3 bushels.											
REINHOLD R. WODTKE, PUNNICHY											
3C.....	9	7	A	Thatcher....	15.9	103	29	10.0	58.0	3 Nor.	F.
				Apex.....	15.1	103	31	10.0	60.0	2 Nor.	F.
				Rescue.....	12.9	103	31	10.0	59.0	3 Nor.	F.
				Redman.....	16.3	103	30	10.0	57.0	3 Nor.	
Necessary difference—1.9 bushels.											
RAYMOND L. HARDS, TATE											
2B.....	9	7	B	Thatcher....	15.3	100	28	10.0	56.0	4 Nor.	
				Apex.....	14.7	102	28	9.2	57.0	3 Nor.	
				Rescue.....	12.9	101	28	9.4	56.0	4 Nor.	
				Redman.....	14.3	100	28	10.0	55.0	4 Sp.	
Necessary difference—1.2 bushels.											

Wheat Pool District 9—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per measured bushel	Com- mercial grades	Grading remarks
GEORGE COOPER, WEST BEND											
3C.....	9	9	A	Thatcher....	34.8	118	36	9.0	60.0	No. 5	F.
				Apex.....	29.4	125	36	9.0	59.0	No. 6	F.
				Rescue.....	26.4	123	34	7.0	58.0	No. 6	F.
				Redman.....	28.3	120	34	8.6	61.0	No. 5	F.
Necessary difference—2.4 bushels.											
ANDREW HAMILTON, WYNOT											
3C.....	9	9	B	Thatcher....	34.6	95	31	9.0	61.0	2 Nor.	S.I.
				Apex.....	33.9	102	32	9.0	60.5	3 Nor.	G.I.
				Rescue.....	33.8	97	34	6.0	61.0	3 Nor.	G.I.
				Redman.....	34.8	92	31	10.0	61.0	2 Nor.	G.I.
No significant grain yield difference between varieties.											
GERALD A. CARTER, MOZART											
3C.....	9	10	A	Thatcher....	25.6	105	30	8.4	63.0	1 Nor.	
				Apex.....	24.3	107	31	7.6	62.0	1 Nor.	
				Rescue.....	21.9	106	30	5.2	61.5	3 Nor.	
				Redman.....	23.2	106	30	8.6	61.0	2 Nor.	B.C.
Necessary difference—1.6 bushels.											
Tests discarded on account of damage by drought, pests, hail or other causes.											
3C.....	9	2	B	Johnny Nistor, Cupar.							
3C.....	9	3	B	Ernest Orban, Punnychy.							

WHEAT POOL DISTRICT 10

GORDON and JAMES WILSON, PENZANCE											
2B.....	10	1	A	Thatcher....	9.5	98	28	10.0	50.0	6 Sp.	
				Apex.....	9.1	98	30	10.0	50.0	6 Sp.	
				Rescue.....	7.3	98	29	10.0	50.0	6 Sp.	
				Redman.....	9.8	98	29	10.0	48.5	Feed	
Necessary difference—1.2 bushels.											
MISS MARIAN G. MYRAH, HOLDFAST											
2B.....	10	1	B	Thatcher....	—	90	17	9.8	56	4 Nor.	
				Apex.....	—	92	18	9.2	57	3 Nor.	
				Rescue.....	—	90	17	10.0	57	3 Nor.	
				Redman.....	—	89	18	8.5	54	4 Sp.	
Yields discarded. Damaged by gophers.											
STEVE G. HECK, CHAMBERLAIN											
2B.....	10	1	C	Thatcher....	9.7	102	29	7.8	52.0	5 Sp.	
				Apex.....	6.6	102	27	7.0	49.5	6 Sp.	
				Rescue.....	8.6	102	28	7.0	51.0	5 Sp.	
				Redman.....	8.2	106	31	8.0	49.0	6 Sp.	
Necessary difference—.6 bushel.											
ALBERT G. HUNTER, RIVERHURST											
1A.....	10	2	A	Thatcher....	15.7	98	23	10.0	59.0	2 Nor.	
				Apex.....	13.9	98	25	10.0	60.5	1 Nor.	
				Rescue.....	12.6	98	23	9.0	61.0	3 Nor.	
				Redman.....	14.7	98	25	10.0	56.5	4 Nor.	
No significant grain yield difference between varieties.											
GORDON MEADEN, BEECHY											
1A.....	10	3	A	Thatcher....	22.0	97	25	10.0	58.0	2 Nor.	
				Apex.....	17.9	98	25	10.0	61.0	1 Nor.	
				Rescue.....	16.9	95	24	9.6	60.0	3 Nor.	S.I.
				Redman.....	19.6	96	26	9.8	55.0	4 Sp.	
Necessary difference—1.7 bushels.											
GARDINER FACCA, WISETON											
1A.....	10	4	A	Thatcher....	11.6	—	—	10.0	58.5	2 Nor.	
				Apex.....	11.1	—	—	9.0	60.0	1 Nor.	
				Rescue.....	9.0	—	—	8.0	59.0	3 Nor.	
				Redman.....	10.0	—	—	9.0	58.0	2 Nor.	
No significant grain yield difference between varieties.											
KENNETH I. BLIXT, SURBITON											
2B.....	10	5	A	Thatcher....	15.0	112	31	8.2	51.5	5 Sp.	
				Apex.....	9.1	111	29	8.8	52.0	5 Sp.	
				Rescue.....	14.8	112	30	7.4	55.5	4 Sp.	
				Redman.....	12.7	112	30	9.4	48.0	Feed	
Necessary difference—2.1 bushels.											

Wheat Pool District 10—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per measured bushel	Com- mercial grades	Grading remarks
PERCY C. FORSBERG, TICHFIELD											
2B.....	10	5	B	Thatcher....	7.7	—	—	—	48.5	Feed	
				Apex.....	7.6	—	—	—	51.0	5 Sp.	
				Rescue.....	7.1	—	—	—	51.0	5 Sp.	
				Redman.....	8.3	—	—	—	46.5	Feed	

No significant grain yield difference between varieties.

DONALD A. WILLS, HAWARDEN											
2B.....	10	6	A	Thatcher....	4.2	—	12	—	54.0	4 Sp.	
				Apex.....	4.4	—	12	—	57.0	3 Nor.	
				Rescue.....	2.9	—	12	—	57.0	3 Nor.	
				Redman.....	3.1	—	12	—	52.0	5 Sp.	

Necessary difference—.6 bushel.

ROSS S. FAWELL, GIRVIN											
2B.....	10	7	A	Thatcher....	26.2	96	34	10.0	56.5	4 Nor.	
				Apex.....	24.7	105	34	10.0	58.0	2 Nor.	
				Rescue.....	21.5	105	30	10.0	57.0	3 Nor.	
				Redman.....	26.5	110	36	10.0	55.0	4 Sp.	

Necessary difference—1.9 bushels.

RONALD H. BANKS, DAVIDSON											
2B.....	10	7	B	Thatcher....	28.5	106	34	—	60.0	1 Nor.	S.Bl.
				Apex.....	27.9	106	35	—	61.5	1 Nor.	
				Rescue.....	28.1	108	39	—	59.5	3 Nor.	
				Redman.....	23.1	107	33	—	58.0	3 Nor.	G.

Necessary difference—3.2 bushels.

WALTER S. CHILDS, SIMPSON											
2B.....	10	8	A	Thatcher....	27.5	106	36	—	59.0	2 Nor.	
				Apex.....	26.2	108	36	—	61.0	1 Nor.	
				Rescue.....	26.1	110	36	—	61.0	3 Nor.	
				Redman.....	24.9	104	36	—	57.0	3 Nor.	

No significant grain yield difference between varieties.

Tests discarded on account of damage by drought, pests, hail or other causes.

1A.....	10	3	B	John J. Pauls, Demaine.							
2B.....	10	10	A	William T. Miller, Laura.							

WHEAT POOL DISTRICT 11

PAUL R. KACOR, KYLE											
1A.....	11	1	B	Thatcher....	14.9	88	25	—	53.0	4 Sp.	
				Apex.....	11.9	91	24	—	56.0	4 Nor.	
				Rescue.....	15.1	90	24	—	55.0	4 Sp.	
				Redman.....	13.1	88	24	—	51.0	5 Sp.	

Necessary difference—1.6 bushels.

KEITH W. KALLECHY, WHITE BEAR											
1A.....	11	1	C	Thatcher....	19.0	—	—	—	59.0	2 Nor.	Bl.
				Apex.....	19.8	—	—	—	61.0	2 Nor.	Bl.,S.F
				Rescue.....	16.7	—	—	—	59.5	3 Nor.	Bl.
				Redman.....	17.0	—	—	—	58.0	2 Nor.	Bl.

Necessary difference—1.5 bushels.

ROSS D. and LORNE A. CAMPBELL, ELROSE											
2F.....	11	2	A	Thatcher....	30.4	98	34	8.0	59.5	2 Nor.	
				Apex.....	27.7	100	35	7.2	60.5	2 Nor.	I.
				Rescue.....	28.0	101	34	5.8	59.5	3 Nor.	
				Redman.....	29.8	101	33	7.0	58.0	2 Nor.	

No significant grain yield difference between varieties.

JAMES BELL, EATONIA											
1B.....	11	4	A	Thatcher....	11.0	—	21	—	56.0	4 Nor.	
				Apex.....	8.5	—	21	—	60.0	4 Nor.	F.
				Rescue.....	7.7	—	21	—	58.0	4 Nor.	F.
				Redman.....	9.5	—	21	—	56.0	4 Nor.	

Necessary difference—1.2 bushels.

STEWART H. LEWIS, KINDERSLEY											
1A.....	11	6	A	Thatcher....	31.5	106	36	7.0	60.5	3 Nor.	F.
				Apex.....	31.3	106	36	6.8	63.5	4 Nor.	F.
				Rescue.....	31.6	106	36	8.2	63.0	4 Nor.	F.
				Redman.....	27.3	106	36	5.4	60.0	4 Nor.	G., F.

Necessary difference—2.4 bushels.

Wheat Pool District 11—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per meas- ured bushel	Com- mercial grades	Grading remarks
THOMAS J. SCRIVENS, ROSETOWN											
2D.....	11	7	A	Thatcher....	8.8	95	28	10.0	58.0	2 Nor.	
				Apex.....	8.8	95	28	9.4	60.0	1 Nor.	
				Rescue.....	12.1	95	29	9.4	58.5	3 Nor.	
				Redman.....	7.8	95	28	10.0	57.0	3 Nor.	
Samples bulked. Considerable sawfly damage.											
WILLIAM J. GARLAND, ROSETOWN											
2F.....	11	7	B	Thatcher....	5.2	104	22	9.0	56.0	4 Nor.	
				Apex.....	4.5	104	22	7.8	58.0	3 Nor.	G.
				Rescue.....	5.2	104	22	8.8	58.0	3 Nor.	G.
				Redman.....	4.2	104	22	8.0	54.0	4 Sp.	
No significant grain yield difference between varieties.											
ALEX. H. BARRETT, FISKE											
1A.....	11	8	A	Thatcher....	4.9	95	15	—	50.0	6 Sp.	
				Apex.....	4.3	95	15	—	54.0	4 Sp.	
				Rescue.....	3.8	95	15	—	53.0	4 Sp.	
				Redman.....	4.2	95	15	—	49.0	6 Sp.	
Necessary difference—.5 bushel.											
A. GRANT MADIN, PLENTY											
2F.....	11	9	A	Thatcher....	10.7	101	25	8.8	60.0	1 Nor.	
				Apex.....	11.2	99	26	8.2	62.0	1 Nor.	
				Rescue.....	11.8	100	27	8.0	62.0	3 Nor.	
				Redman.....	9.5	100	25	8.4	60.0	1 Nor.	
Necessary difference—1.0 bushel.											
RONALD E. RUTT, SMILEY											
1B.....	11	10	A	Thatcher....	15.9	119	31	9.0	62.0	3 Nor.	G.
				Apex.....	14.5	119	31	9.0	63.0	3 Nor.	G.
				Rescue.....	15.2	118	31	9.0	62.5	3 Nor.	G.
				Redman.....	13.0	118	31	9.0	60.5	3 Nor.	G.
Necessary difference—1.3 bushels.											
HARLAN G. SALE, HOOSIER											
1B.....	11	10	B	Thatcher....	17.5	—	17	7.8	60.0	No. 5	D.F.
				Apex.....	17.4	—	17	8.0	60.5	No. 6	D.F.
				Rescue.....	17.0	—	17	10.0	60.5	No. 5	D.F.
				Redman.....	17.4	—	17	9.0	60.0	No. 5	D.F.
No significant grain yield difference between varieties.											
Tests discarded on account of damage by drought, pests, hail or other causes.											
1A.....	11	1	A	Clifton Trytten, Kyle.							
1B.....	11	5	A	R. Ray Coutts, Marengo.							

WHEAT POOL DISTRICT 12

NORMAN D. SMITH, BIGGAR											
2D.....	12	1	A	Thatcher....	11.5	94	27	10.0	53.0	4 Sp.	
				Apex.....	11.3	95	26	9.6	56.0	4 Nor.	
				Rescue.....	10.6	95	24	9.2	57.5	3 Nor.	
				Redman.....	11.0	94	27	9.8	53.0	4 Sp.	
No significant grain yield difference between varieties.											
TONY DE MOISSAC, LYDDEN											
2D.....	12	1	B	Thatcher....	7.5	96	19	9.2	52.0	5 Sp.	
				Apex.....	6.2	96	18	9.0	54.0	4 Sp.	
				Rescue.....	6.0	97	18	9.0	53.5	4 Sp.	
				Redman.....	6.7	96	19	8.8	50.0	Feed	
No significant grain yield difference between varieties.											
HARRY W. HOBBS, RUTHILDA											
2D.....	12	3	A	Thatcher....	27.3	114	30	6.2	59.5	4 Nor.	G.
				Apex.....	29.3	114	29	6.4	61.5	3 Nor.	G.
				Rescue.....	24.6	114	30	6.6	60.5	3 Nor.	
				Redman.....	27.9	114	31	7.0	59.0	4 Nor.	G.
No significant grain yield difference between varieties.											
CARL LEIDL, LEIPZIG											
2D.....	12	3	B	Thatcher....	7.8	—	—	9.0	58.0	2 Nor.	
				Apex.....	7.5	—	—	9.0	62.0	1 Nor.	
				Rescue.....	7.2	—	—	8.0	61.5	3 Nor.	
				Redman.....	8.0	—	—	10.0	58.0	2 Nor.	
No significant grain yield difference between varieties.											

Wheat Pool District 12—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed-ing to ripening	Plant height in inches	Straw strength	Lbs. per meas-ured bushel	Com-mercial grades	Grading remarks
ROBERT L. CHARTERIS, DODSLAND											
2D.....	12	4	A	Thatcher....	13.0	116	29	8.0	53.5	4 Sp.	G., Pk.
				Apex.....	11.6	116	30	8.8	58.0	3 Nor.	
				Rescue.....	12.9	116	29	9.4	57.0	3 Nor.	
				Redman.....	11.9	116	29	9.0	52.0	5 Sp.	

No significant grain yield difference between varieties.

THOMAS J. BARTH, TAKO											
2D.....	12	5	A	Thatcher....	11.2	106	—	8.6	62.5	2 Nor.	S.F.
				Apex.....	10.6	106	—	8.4	63.5	2 Nor.	F.I.
				Rescue.....	10.7	106	—	8.2	63.0	3 Nor.	S.F.
				Redman.....	8.0	106	—	8.0	61.5	2 Nor.	S.F., I.

No significant grain yield difference between varieties.

VICTOR J. STANG, PRIMATE											
2D.....	12	6	A	Thatcher....	12.8	113	—	8.8	57.0	3 Nor.	Bl., S.G.
				Apex.....	13.3	113	—	8.0	62.0	1 Nor.	
				Rescue.....	12.2	113	—	7.4	61.0	3 Nor.	
				Redman.....	13.2	113	—	8.6	58.0	3 Nor.	

No significant grain yield difference between varieties.

RUSSELL E. WELLS, SENLAC											
2D.....	12	7	A	Thatcher....	—	111	25	9.0	60.0	Feed	F.
				Apex.....	—	111	25	9.0	59.0	Feed	F.
				Rescue.....	—	111	25	9.0	57.0	Feed	F.
				Redman.....	—	111	25	9.0	59.0	No. 6	F.

Damaged by livestock. Yields discarded.

PETER G. GERES, MARSDEN											
3E.....	12	8	A	Thatcher....	21.5	—	31	—	60.5	No. 6	F.
				Apex.....	17.8	—	33	—	61.0	No. 6	F.
				Rescue.....	13.8	—	28	—	59.5	No. 6	F.
				Redman.....	13.5	—	31	—	59.5	No. 5	F.

Necessary difference—2.8 bushels.

DONALD R. GRANT, CUTKNIFE											
3E.....	12	9	A	Thatcher....	13.1	94	32	9.5	56.0	4 Nor.	G.
				Apex.....	13.5	99	32	9.4	59.0	4 Nor.	
				Rescue.....	11.8	99	31	8.9	58.0	3 Nor.	
				Redman.....	12.8	94	32	9.8	56.0	4 Nor.	

Necessary difference—.8 bushel.

RAYMOND C. COOK, WILKIE											
2D.....	12	9	B	Thatcher....	21.3	100	25	9.4	62.0	No. 5	G.I.
				Apex.....	16.7	100	27	9.0	63.5	No. 5	G.I.
				Rescue.....	16.2	100	26	8.6	63.0	4 Nor.	G.I.
				Redman.....	14.9	100	26	8.8	62.5	No. 5	G.I.

No significant grain yield difference between varieties.

GEORGE C. HOWLETT, BATTLEFORD											
3E.....	12	10	A	Thatcher....	18.2	93	—	—	57.0	No. 5	G., Pk., I.
				Apex.....	17.1	98	—	—	58.0	No. 6	G., Pk., I.
				Rescue.....	16.0	98	—	—	59.0	No. 5	G., Pk., I.
				Redman.....	20.1	93	—	—	57.0	No. 5	G., Pk., I.

Necessary difference—1.5 bushels.

Tests discarded on account of damage by drought, pests, hail or other causes.

2D.....	12	2	A	Alexander Marchuk, Cando.							
2D.....	12	3	C	Douglas P. Toner, Kelfield.							

WHEAT POOL DISTRICT 13

DANIEL KACHUR, LANIGAN											
3C.....	13	1	A	Thatcher....	27.4	90	30	8.4	60.5	1 Nor.	
				Apex.....	25.8	91	29	6.8	61.5	1 Nor.	
				Rescue.....	22.4	92	31	8.2	61.0	3 Nor.	
				Redman.....	25.9	90	29	7.4	58.5	2 Nor.	

Necessary difference—1.2 bushels.

JOSEPH H. A. EARIS, Jr., BAY TRAIL											
3C.....	13	1	B	Thatcher....	15.9	91	36	9.6	57.0	3 Nor.	
				Apex.....	16.4	95	36	9.6	58.0	2 Nor.	
				Rescue.....	17.9	99	36	8.2	59.0	3 Nor.	
				Redman.....	17.7	92	36	10.0	57.0	3 Nor.	

No significant grain yield difference between varieties.

Wheat Pool District 13—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed-ing to ripening	Plant height in inches	Straw strength	Lbs. per measured bushel	Com-mercial grades	Grading remarks
WILLIAM H. BROTCHE, YOUNG											
2B.....	13	2	A	Thatcher....	16.8	84	28	—	56.0	4 Nor.	
				Apex.....	15.1	84	28	—	56.5	4 Nor.	
				Rescue.....	14.5	85	28	—	56.5	4 Nor.	
				Redman.....	14.5	91	28	—	56.5	4 Nor.	

No significant grain yield difference between varieties.

PAUL MESZAROS, PLUNKETT											
2B.....	13	2	C	Thatcher....	6.3	—	25	6.6	62.0	2 Nor.	I., F.
				Apex.....	8.8	—	27	8.8	62.5	2 Nor.	I., F.
				Rescue.....	8.1	—	26	7.6	62.0	3 Nor.	I., F.
				Redman.....	6.9	—	26	8.2	61.0	2 Nor.	I., F.

Damaged by wireworm.

WILLIS M. YOUNG, YOUNG											
2B.....	13	2	D	Thatcher....	24.0	98	33	9.0	58.0	2 Nor.	
				Apex.....	20.6	98	32	7.8	60.0	1 Nor.	
				Rescue.....	20.0	98	31	6.4	59.0	3 Nor.	
				Redman.....	21.3	98	32	9.0	55.0	4 Sp.	

Necessary difference—1.2 bushels.

WALTER SAFINUK, COLONSAY											
2B.....	13	4	A	Thatcher....	9.8	104	25	6.0	60.0	1 Nor.	
				Apex.....	9.5	104	27	7.6	62.0	1 Nor.	
				Rescue.....	9.7	104	26	7.4	61.5	3 Nor.	
				Redman.....	10.4	105	27	8.0	59.0	2 Nor.	

No significant grain yield difference between varieties.

MENNO B. FAST, LANGHAM											
3E.....	13	5	A	Thatcher....	15.9	—	25	8.8	60.5	1 Nor.	
				Apex.....	14.4	—	25	8.8	63.0	1 Nor.	
				Rescue.....	13.8	—	23	8.0	61.5	3 Nor.	
				Redman.....	14.2	—	24	8.0	59.5	2 Nor.	

Necessary difference—1.2 bushels.

GLEN A. SHOCKEY, VANSOY											
2B.....	13	6	B	Thatcher....	9.9	107	15	9.0	60.5	3 Nor.	F.
				Apex.....	8.3	108	15	9.0	62.0	4 Nor.	F.
				Rescue.....	8.9	117	19	8.2	62.5	4 Nor.	F.
				Redman.....	7.1	109	13	9.0	60.0	4 Nor.	F.

No significant grain yield difference between varieties.

RAYMOND H. KELLERMAN, BREMEN											
2B.....	13	9	A	Thatcher....	14.9	107	—	9.6	60.5	1 Nor.	
				Apex.....	10.0	109	—	10.0	62.5	1 Nor.	
				Rescue.....	13.2	103	—	7.6	61.5	3 Nor.	
				Redman.....	14.8	102	—	8.4	61.5	1 Nor.	

Necessary difference—2.2 bushels.

EVERARD H. HESSDORFER, ST. BENEDICT											
4A.....	13	10	A	Thatcher....	15.1	110	28	9.8	61.5	1 Nor.	
				Apex.....	11.9	115	25	9.0	61.5	1 Nor.	
				Rescue.....	11.7	114	29	9.0	61.5	3 Nor.	
				Redman.....	13.2	112	28	9.0	60.5	2 Nor.	I.

No significant grain yield difference between varieties.

Tests discarded on account of damage by drought, pests, hail, or other causes.

2B.....	13	2	B	Miss Mary E. Egeto, Plunkett.							
2B.....	13	3	A	Lorne E. Freeden, Dundurn.							
2B.....	13	6	A	Allan Waldner, Langham.							
3D.....	13	10	B	Raymond Besette, Jr., Reynaud.							
3B.....	13	11	A	Freddie P. Gerwing, Lake Lenore.							

WHEAT POOL DISTRICT 14

WILLIAM GIBB, LINTLAW											
3B.....	14	1	A	Thatcher....	16.6	—	—	—	62.0	1 Nor.	
				Apex.....	17.2	—	—	—	63.0	2 Nor.	G.I.
				Rescue.....	16.3	—	—	—	62.0	3 Nor.	G.I.
				Redman.....	11.5	—	—	—	61.0	2 Nor.	I.

Necessary difference—3.4 bushels.

GUNTHER HILBIG, KUROKI											
3C.....	14	1	B	Thatcher....	26.1	107	34	9.2	61.0	2 Nor.	G.
				Apex.....	23.7	108	36	9.6	63.0	3 Nor.	G.I.
				Rescue.....	22.8	107	35	8.2	61.5	3 Nor.	
				Redman.....	25.1	107	37	9.6	61.0	3 Nor.	G.I.

Samples incomplete.

Wheat Pool District 14—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per measured bushel	Com- mercial grades	Grading remarks
ROBERT A. CLARK, SILVER PARK											
4A.....	14	3	A	Thatcher.....	40.3	—	—	—	62.0	1 Nor.	
				Apex.....	41.5	—	—	—	62.0	2 Nor.	S.F.
				Rescue.....	37.5	—	—	—	62.0	3 Nor.	
				Redman.....	39.1	—	—	—	62.0	1 Nor.	S.G.
Necessary difference—1.9 bushels.											
DELBERT O. KVMESHAGEN, WALLWORT											
4A.....	14	4	A	Thatcher.....	25.6	95	17	9.2	60.5	4 Nor.	D.F.
				Apex.....	22.1	96	20	9.4	60.5	No. 5	D.F.
				Rescue.....	22.5	95	20	9.4	60.5	4 Nor.	D.F.
				Redman.....	25.8	95	18	9.4	59.5	4 Nor.	D.F.
No significant grain yield difference between varieties.											
MISS BETTY C. EVANS, LIGHTWOODS											
4A.....	14	4	B	Thatcher.....	31.3	99	37	9.4	61.5	1 Nor.	S. Bl.
				Apex.....	29.7	101	38	7.4	62.5	2 Nor.	G.I.
				Rescue.....	29.5	101	38	6.2	62.0	3 Nor.	I., Bl.
				Redman.....	29.3	100	37	8.6	60.5	2 Nor.	I., Bl.
No significant grain yield difference between varieties.											
FLOYD THOMPSON, PERIGORD											
3B.....	14	5	A	Thatcher.....	21.1	111	31	8.0	63.5	4 Nor.	D.F.
				Apex.....	20.4	113	32	8.8	64.0	No. 5	D.F.
				Rescue.....	19.6	112	31	7.8	63.5	No. 5	D.F.
				Redman.....	20.5	110	32	8.8	63.0	No. 5	D.F.
No significant grain yield difference between varieties.											
MORRISON S. MORLEY, KINLOCH											
4A.....	14	5	B	Thatcher.....	22.3	—	—	—	64.0	2 Nor.	I., S.F.
				Apex.....	23.5	—	—	—	64.0	3 Nor.	I.F.
				Rescue.....	24.2	—	—	—	63.5	3 Nor.	I.F.
				Redman.....	22.3	—	—	—	63.5	3 Nor.	I.F.
Necessary difference—1.1 bushels.											
ALLEN LAYFIELD, CARRAGANA											
3F.....	14	6	A	Thatcher.....	27.1	—	—	—	64.0	1 Nor.	
				Apex.....	29.3	—	—	—	64.5	1 Nor.	
				Rescue.....	24.7	—	—	—	64.5	3 Nor.	
				Redman.....	25.0	—	—	—	63.0	1 Nor.	
No significant grain yield difference between varieties.											
WILLIAM T. HOWSE, SHAND CREEK											
3F.....	14	6	B	Thatcher.....	31.0	—	35	10.0	62.0	3 Nor.	F.
				Apex.....	28.9	—	30	6.8	62.5	4 Nor.	F.
				Rescue.....	27.0	—	32	6.0	61.0	4 Nor.	F.
				Redman.....	29.8	—	37	7.0	62.0	3 Nor.	F.
No significant grain yield difference between varieties.											
MICHAL NAWROCKI, SYLVANIA											
3F.....	14	7	A	Thatcher.....	27.1	98	38	8.8	63.0	1 Nor.	
				Apex.....	27.9	100	39	8.4	63.5	1 Nor.	S.Stch.
				Rescue.....	26.3	101	39	8.0	63.5	3 Nor.	
				Redman.....	25.3	98	36	8.6	63.0	1 Nor.	S.G.
No significant grain yield difference between varieties.											
LAURENCE W. VIGRASS, PATHLOW											
3F.....	14	8	A	Thatcher.....	22.8	104	36	9.0	64.5	1 Nor.	
				Apex.....	22.3	104	38	9.2	64.5	2 Nor.	G.
				Rescue.....	19.7	104	36	7.4	64.0	3 Nor.	
				Redman.....	18.2	104	35	9.4	63.5	1 Nor.	
No significant grain yield difference between varieties.											
GUNNAR PEDERSEN, STAR CITY											
3D.....	14	8	B	Thatcher.....	36.1	102	36	8.6	62.5	2 Nor.	Bl.
				Apex.....	32.7	104	37	8.8	63.0	3 Nor.	F.
				Rescue.....	34.6	105	36	7.2	63.0	3 Nor.	F.
				Redman.....	32.7	104	36	9.2	61.0	3 Nor.	F.
No significant grain yield difference between varieties.											
MARGUERITE P. STRAD, JORDAN RIVER											
3F.....	14	10	A	Thatcher.....	37.1	100	41	8.6	62.5	1 Nor.	S.Bl.
				Apex.....	41.9	100	42	9.6	64.5	1 Nor.	S.Stch.
				Rescue.....	37.1	102	43	7.6	63.5	3 Nor.	
				Redman.....	34.8	99	40	8.8	62.5	1 Nor.	S.G.
Necessary Difference—2.2 bushels.											

WHEAT POOL DISTRICT 15

Cereal Variety Zone	Dist.	Sub- Dist.	Test design- nation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per meas- ured bushel	Com- mercial grades	Grading remarks
JOHN P. BAKER, RED DEER HILL											
3E.....	15	3	A	Thatcher....	29.1	104	36	9.4	59.5	2 Nor.	
				Apex.....	29.3	104	37	10.0	60.0	2 Nor.	Bl.,S.F.
				Rescue.....	26.3	105	36	8.4	59.0	3 Nor.	
				Redman.....	29.0	102	35	10.0	58.0	3 Nor.	F.
No significant grain yield difference between varieties.											
WALTER H. FRIESEN, ROSTHERN											
3E.....	15	4	A	Thatcher....	12.1	107	30	9.0	56.0	4 Nor.	
				Apex.....	11.8	107	30	7.8	57.0	3 Nor.	
				Rescue.....	11.1	107	31	7.6	57.5	3 Nor.	
				Redman.....	12.1	107	30	7.8	55.5	4 Sp.	
No significant grain yield difference between varieties.											
JOHN O. DAVIES, KILWINNING											
3E.....	15	5	A	Thatcher....	28.9	90	33	10.0	61.0	2 Nor.	I.
				Apex.....	27.5	93	32	10.0	63.0	3 Nor.	I.
				Rescue.....	25.6	96	35	10.0	62.0	3 Nor.	I.
				Redman.....	31.3	91	36	10.0	61.0	3 Nor.	I.
Necessary difference—2.7 bushels.											
IRVIN W. JUNG, MONT NEBO											
3E.....	15	7	A	Thatcher....	14.6	92	20	9.0	58.0	3 Nor.	Bl.
				Apex.....	13.7	92	20	9.0	60.0	2 Nor.	Bl.
				Rescue.....	13.3	92	20	9.0	60.0	3 Nor.	S.F.
				Redman.....	14.2	92	20	9.0	57.0	3 Nor.	
No significant grain yield difference between varieties.											
MAURICE CYR, DEBDEN											
4B.....	15	7	B	Thatcher....	31.3	—	—	—	61.5	2 Nor.	Bl.,B.C
				Apex.....	31.2	—	—	—	63.0	2 Nor.	G.,Stch
				Rescue.....	27.3	—	—	—	62.5	3 Nor.	S.Stch
				Redman.....	27.6	—	—	—	60.5	2 Nor.	G.
Necessary difference—2.3 bushels.											
HARVEY WENDEL, HOLBEIN											
3E.....	15	8	A	Thatcher....	38.8	111	37	8.4	64.0	1 Nor.	S.G.
				Apex.....	43.6	112	40	8.8	64.5	1 Nor.	
				Rescue.....	43.9	114	40	7.2	64.0	3 Nor.	S.G.
				Redman.....	42.2	111	38	9.0	64.5	1 Nor.	S.G.
No significant grain yield difference between varieties.											
WILLETTE O. LUEBKE, WILD ROSE											
3E.....	15	8	B	Thatcher....	49.9	99	36	9.8	63.5	1 Nor.	S.I.
				Apex.....	46.8	100	36	8.9	64.5	1 Nor.	S.I.
				Rescue.....	43.2	100	38	7.5	64.0	3 Nor.	S.I.
				Redman.....	44.8	100	36	9.6	62.0	1 Nor.	S.I.
Necessary difference—3.3 bushels.											
FREDERICK S. FOWLER, PRINCE ALBERT											
3E.....	15	9	A	Thatcher....	30.4	—	—	—	62.0	2 Nor.	F.
				Apex.....	29.9	—	—	—	63.0	2 Nor.	F.
				Rescue.....	24.7	—	—	—	62.5	3 Nor.	F.
				Redman.....	24.8	—	—	—	61.0	2 Nor.	F.
Necessary difference—2.9 bushels.											
EUGENE H. JOHNS, HENRIBOURG											
4B.....	15	9	B	Thatcher....	25.0	—	—	—	60.5	No. 5	F.
				Apex.....	21.6	—	—	—	61.0	No. 5	F.
				Rescue.....	26.1	—	—	—	58.5	No. 6	F.
				Redman.....	30.3	—	—	—	60.0	No. 5	F.
Necessary difference—3.9 bushels.											
WILBUR A. SCOTT, GARRICK											
4A.....	15	11	A	Thatcher....	43.6	84	29	9.2	63.0	2 Nor.	F.,I.
				Apex.....	44.1	85	28	9.2	64.0	3 Nor.	F.,G.
				Rescue.....	39.3	80	29	9.6	63.0	3 Nor.	F.,G.
				Redman.....	49.0	85	29	9.2	62.0	2 Nor.	F.,G.
Necessary difference—5.0 bushels.											

Wheat Pool District 15—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed-ing to ripening	Plant height in inches	Straw strength	Lbs. per measured bushel	Com-mercial grades	Grading remarks
THOMAS B. HICKS, CHOICELAND											
4A.....	15	11	B	Thatcher....	32.4	84	41	10.0	61.0	4 Nor.	F.
				Apex.....	34.9	86	42	10.0	61.5	4 Nor.	F.
				Rescue.....	30.0	84	41	10.0	61.5	4 Nor.	F.
				Redman.....	30.7	85	40	10.0	60.5	4 Nor.	F.
Necessary difference—2.4 bushels.											
JAMES D. SIMPSON, WHITE FOX											
4B.....	15	11	C	Thatcher....	31.5	102	38	10.0	64.5	2 Nor.	F.,Stch.
				Apex.....	32.9	105	39	10.0	64.0	3 Nor.	F.,Stch.
				Rescue.....	33.2	105	39	10.0	64.0	3 Nor.	F.,Stch.
				Redman.....	34.6	100	42	10.0	64.0	3 Nor.	F.,Stch.
No significant grain yield difference between varieties.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
3E.....	15	4	B	Leon J. Klaassen, Laird.							
4A.....	15	11	D	James A. Robb, White Fox.							
4A.....	15	11	E	Tom McLean, White Fox.							

WHEAT POOL DISTRICT 16

WILFRED GELINAS, FIELDING											
3E.....	16	1	A	Thatcher....	11.2	—	—	—	56.0	4 Nor.	
				Apex.....	10.8	—	—	—	57.5	3 Nor.	
				Rescue.....	9.9	—	—	—	57.5	3 Nor.	
				Redman.....	11.4	—	—	—	57.0	3 Nor.	
No significant grain yield difference between varieties.											
EARL W. CURRY, MAYMONT											
3E.....	16	1	B	Thatcher....	24.0	—	—	—	58.0	2 Nor.	
				Apex.....	17.3	—	—	—	57.0	3 Nor.	
				Rescue.....	21.0	—	—	—	58.0	3 Nor.	
				Redman.....	18.0	—	—	—	56.0	4 Nor.	
Necessary difference—3.1 bushels.											
THOMAS K. SIMMONDS, SPEERS											
3E.....	16	2	A	Thatcher....	17.0	98	30	9.0	58.0	2 Nor.	
				Apex.....	15.4	100	30	8.4	59.0	2 Nor.	
				Rescue.....	16.1	99	30	8.2	58.5	3 Nor.	
				Redman.....	15.6	97	29	9.0	57.0	3 Nor.	
No significant grain yield difference between varieties.											
HARRY W. KUFFERT, RABBIT LAKE											
4B.....	16	3	A	Thatcher....	25.7	108	—	—	60.0	2 Nor.	Bl.,F.
				Apex.....	26.5	108	—	—	60.5	3 Nor.	G.,F.
				Rescue.....	23.9	108	—	—	61.0	3 Nor.	G.,F.
				Redman.....	22.4	110	—	—	58.0	3 Nor.	G.,F.
No significant grain yield difference between varieties.											
OTTO LANGE, IFFLEY											
3E.....	16	3	B	Thatcher....	31.8	98	38	7.6	61.5	1 Nor.	
				Apex.....	30.1	98	39	5.8	61.0	1 Nor.	
				Rescue.....	19.9	101	40	3.0	59.5	3 Nor.	
				Redman.....	29.5	98	40	8.8	60.0	2 Nor.	I.
Necessary difference—2.2 bushels.											
CLIFFORD R. MAIR, PRINCE											
3E.....	16	4	A	Thatcher....	12.6	100	30	9.2	54.5	4 Sp.	
				Apex.....	13.4	100	31	7.2	55.5	4 Sp.	
				Rescue.....	11.6	100	31	7.4	55.0	4 Sp.	
				Redman.....	14.3	100	30	8.4	53.5	4 Sp.	
Necessary difference—9 bushel.											
FREDERICK W. GANSAUGE, PRINCE											
3E.....	16	4	B	Thatcher....	19.4	—	31	8.0	58.0	2 Nor.	
				Apex.....	18.3	—	32	9.0	58.5	2 Nor.	
				Rescue.....	15.2	—	29	7.0	58.0	3 Nor.	
				Redman.....	14.9	—	26	6.0	56.5	4 Nor.	
Necessary difference—1.2 bushels.											

Wheat Pool District 16—Continued

Cereal Variety Zone	Dist.	Sub-Dist	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per meas- ured bushel	Com- mercial grades	Grading remarks
CHARLES H. BLACK, PAYNTON											
3E.....	16	5	A	Thatcher....	23.7	112	30	8.6	62.0	1 Nor.	
				Apex.....	21.6	110	30	8.0	62.5	2 Nor.	G.I.
				Rescue.....	16.8	112	30	8.0	62.5	3 Nor.	G.I.
				Redman.....	19.6	112	31	8.8	61.0	2 Nor.	G.I.
Necessary difference—2.7 bushels.											
KENNETH W. WESSON, MAIDSTONE											
3E.....	16	5	B	Thatcher....	26.6	108	34	10.0	62.0	1 Nor.	
				Apex.....	28.0	109	35	9.8	64.0	1 Nor.	
				Rescue.....	24.8	107	34	9.4	64.0	3 Nor.	
				Redman.....	26.5	103	34	9.6	62.0	2 Nor.	G.
No significant grain yield difference between varieties.											
WALLACE RICHARDSON, LASHBURN											
3E.....	16	6	A	Thatcher....	1.7	—	—	—	58.0	No. 6	F.
				Apex.....	2.1	—	—	—	56.5	Feed	F.
				Rescue.....	1.4	—	—	—	57.0	Feed	F.
				Redman.....	1.0	—	—	—	*	(E)Feed	F.
Badly frozen.											
FRANKLIN J. VICK, ST. WALBURG											
4B.....	16	7	A	Thatcher....	7.5	—	—	—	63.0	2 Nor.	S.F.
				Apex.....	9.0	—	—	—	64.0	3 Nor.	F.
				Rescue.....	9.0	—	—	—	63.5	4 Nor.	F.
				Redman.....	9.0	—	—	—	63.0	2 Nor.	S.F.
No significant grain yield difference between varieties.											
LOUIS C. H. de MONTARNAL, SANDALL											
4B.....	16	7	B	Thatcher....	42.6	105	42	10.0	61.0	2 Nor.	G.
				Apex.....	41.4	107	36	10.0	63.5	2 Nor.	G.
				Rescue.....	35.3	107	36	5.0	61.0	3 Nor.	G.
				Redman.....	43.9	85	36	10.0	61.5	3 Nor.	G.
Samples incomplete.											
JOSEPH H. BROWN, TURTLEFORD											
3E.....	16	8	A	Thatcher....	23.1	108	—	10.0	63.0	4 Nor.	G.,F.
				Apex.....	19.7	106	—	9.8	62.5	No. 5	D.G.,F.
				Rescue.....	21.9	107	—	9.4	62.5	No. 5	D.G.,F.
				Redman.....	18.1	107	—	9.6	62.5	No. 5	D.G.,F.
Necessary difference—1.9 bushels.											
VALMONT B. ARSENAULT, MEDSTEAD											
3E.....	16	9	A	Thatcher....	14.6	103	32	—	61.0	No. 5	F.
				Apex.....	15.0	103	32	—	61.5	No. 6	F.
				Rescue.....	14.3	103	32	—	59.5	No. 6	F.
				Redman.....	9.5	103	32	—	61.5	No. 5	F.
Necessary difference—2.1 bushels.											
WALTER ILNISKY, RANGER											
4B.....	16	10	A	Thatcher....	12.8	113	40	9.0	63.0	2 Nor.	G.
				Apex.....	18.4	115	43	9.0	64.5	2 Nor.	G.
				Rescue.....	12.0	116	41	9.0	63.5	3 Nor.	G.
				Redman.....	8.7	116	40	9.0	61.0	3 Nor.	G.
Necessary difference—1.8 bushels.											
SIDNEY J. HARLEY, Jr., MILDRED											
4B.....	16	10	B	Thatcher....	17.3	—	—	—	62.5	4 Nor.	F.
				Apex.....	16.6	—	—	—	64.0	4 Nor.	F.
				Rescue.....	14.3	—	—	—	62.5	4 Nor.	F.
				Redman.....	14.4	—	—	—	61.5	4 Nor.	F.
Necessary difference—1.6 bushels.											
HARRY VOTH, MAYFAIR											
3E.....	16	10	C	Thatcher....	12.7	95	43	9.4	51.0	5 Sp.	
				Apex.....	12.3	97	43	7.8	53.0	4 Sp.	
				Rescue.....	14.1	95	43	7.6	54.0	4 Sp.	
				Redman.....	13.7	95	43	7.8	52.0	5 Sp.	
No significant grain yield difference between varieties.											

Note: * Insufficient to calculate bushel weight.
(E) Estimated grade.

Wheat Pool District 16—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripening	Plant height in inches	Straw strength	Lbs. per measured bushel	Com- mercial grades	Grading remarks
CHARLES A. COMERFORD, MULLINGAR											
3E.....	16	10	D	Thatcher....	12.6	—	—	—	60.0	3 Nor.	F.
				Apex.....	12.1	—	—	—	63.0	4 Nor.	F.
				Rescue.....	10.1	—	—	—	60.5	3 Nor.	F.
				Redman.....	12.1	—	—	—	59.0	3 Nor.	F.
Necessary difference—1.4 bushels.											
JUNE BARNES, RAPID VIEW											
4B.....	16	11	A	Thatcher....	33.9	100	40	8.4	62.5	2 Nor.	Bl.,F.
				Apex.....	38.8	100	43	9.4	63.5	2 Nor.	Stch.,F.
				Rescue.....	31.1	100	42	7.6	62.5	3 Nor.	F.
				Redman.....	43.0	96	44	8.2	62.0	2 Nor.	Bl.,F.
Necessary difference—2.2 bushels.											
EVELYN KOCH, DORINTOSH											
4B.....	16	11	B	Thatcher....	—	104	29	8.0	—	—	—
				Apex.....	—	104	31	8.6	—	—	—
				Rescue.....	—	102	31	7.4	—	—	—
				Redman.....	—	100	36	9.6	—	—	—
Yields not available.											
C. WILBURT PETHICK, RAPID VIEW											
4B.....	16	11	C	Thatcher....	36.4	112	42	10.0	58.0	Feed	F.
				Apex.....	32.4	112	42	10.0	57.0	Feed	F.
				Rescue.....	17.4	105	42	10.0	55.0	Feed	F.
				Redman.....	47.5	100	42	10.0	59.0	Feed	F.
Necessary difference—5.8 bushels.											
Tests discarded on account of damage by drought, pests, hail, or other causes.											
4B.....	16	9	B	Donald J. Heyden, Belbutte.							



Left: John Leib of Craven who supervised a wheat test.
Right: Roselyn Biegler of Vibank and her wheat test.

BARLEY TESTS

DESCRIPTION OF VARIETIES

PLUSH is a six-rowed, smooth-awned variety originated at the Brandon Experimental Station from a cross made between Lion x Bearer. It is susceptible to rusts and smuts. This variety is eligible for the feed grades.

TITAN is a six-rowed, smooth-awned variety originated at the University of Alberta from the cross Trebi x Galbron. It is highly resistant to loose smut but is susceptible to rusts and covered smut. This variety is eligible for the feed grades.

TREGAL is a six-rowed, smooth-awned feed variety produced by the North Dakota Experimental Station from the cross Trebi x Regal. It is susceptible to rusts and smuts. This variety is eligible for the feed grades.

MONTCALM is a six-rowed, smooth-awned blue seeded variety which resembles O.A.C. 21 in many respects. It was produced at MacDonald College, Quebec, by Professor E. A. Lods from the cross Black Barbless x a blue Manchurian selection. Montcalm is a high quality malting variety eligible for grade 1 C.W. 6-Row. It is susceptible to rusts and smuts.

ANALYSIS OF DATA

As a limited number of barley tests were conducted in each cereal variety zone it was necessary, in order to obtain accurate average results, to combine the zones where soil-climatic environment is reasonably similar.

The barley tests were analyzed on the basis of the following areas:

Area "A"—which includes Cereal Variety Zones 1A and 1B.

Area "B"—which includes Cereal Variety Zones 2A, 2B, 2D, 2E and 2F.

Area "C"—which includes Cereal Variety Zones 3A, 3B and 3C.

Area "D"—which includes Cereal Variety Zones 3D, 3F and 4A.

Area "E"—which includes Cereal Variety Zones 3E and 4B.

TABLE No. 22.—AVERAGE YIELDS IN BUSHELS PER ACRE SUMMARIZED BY AREAS

Area	No. of Satisfactory Tests	Plush	Titan	Tregal	Montcalm	Necessary Difference in Bus.
A.....	9	25.1	25.1	26.6	16.6	3.9
B.....	12	27.5	29.9	30.6	20.0	3.1
C.....	14	50.1	50.3	50.6	48.1	3.5
D.....	6	47.1	44.6	48.2	40.5	*
E.....	9	22.8	24.2	27.0	16.2	3.0

*No significant grain yield difference between varieties.

GRAIN YIELD

Table No. 22 shows the average yield in bushels per acre summarized by areas. As the number of satisfactory tests in a zone was seldom sufficient to give reliable average results, it was necessary to combine the zones where soil and moisture conditions were reasonably similar. A summary of all the tests in the Province shows that **TREGAL** excelled with an average yield of 37.0 bushels per acre. **TITAN** was second, yielding 35.5 bushels, and **PLUSH** ranked third with an average of 34.9 bushels. The malting variety, **MONTCALM**, proved inferior to all the feed varieties with an average yield of 29.0 bushels per acre. **TREGAL** retained its superior performance throughout each of the five areas in which the tests were grouped. It failed, however, to outyield Titan significantly in any region. It exceeded Plush by an amount equal to the necessary difference in Area "B," and significantly outyielded Plush in Area "E." Tregal outyielded Montcalm in every region, the differences in yields being significant in Areas "A," "B" and "E." In the two remaining areas, which comprised the eastern and northeastern sections of the Province, **MONTCALM** compared more favorably with Tregal and the other feed varieties. In these areas, where most of Saskatchewan's malting barley is produced, the differences shown between the varieties were not significant. **TITAN** ranked second in yield in three areas, tied with Plush for second place in one, and ranked third in the remaining region. In no case was the yield difference between Titan and Plush significant.

HISTOGRAMS SHOWING BARLEY YIELDS

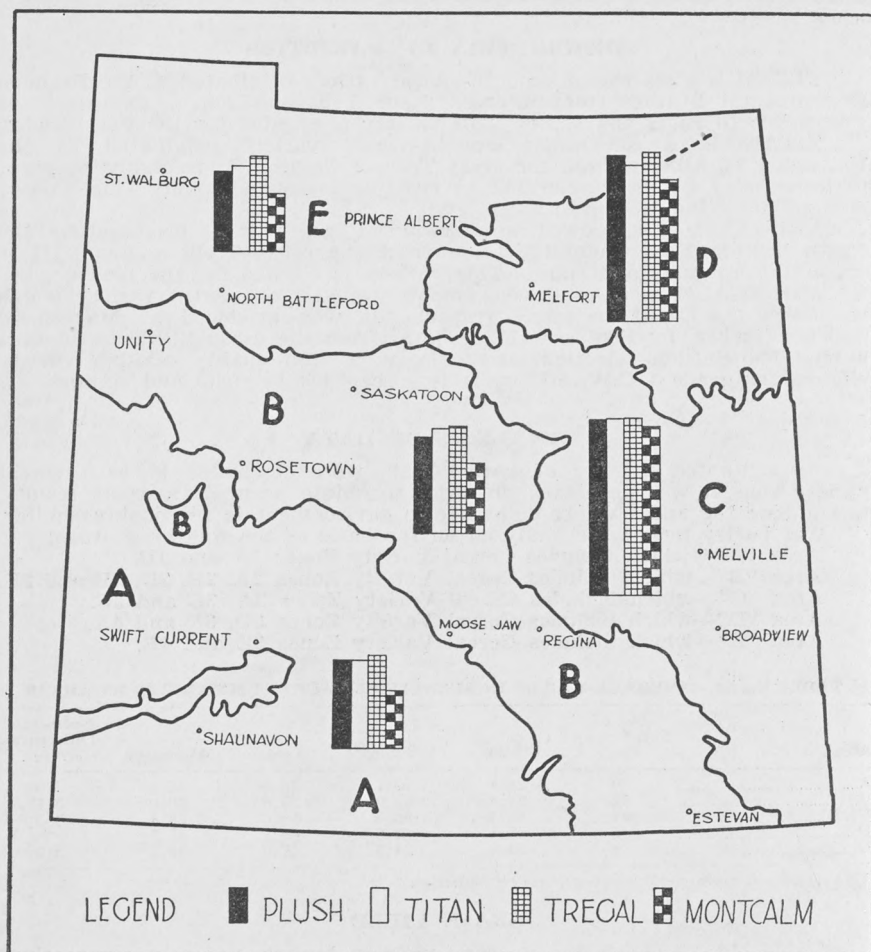


TABLE No. 23.—AVERAGE HEIGHT OF PLANTS IN INCHES SUMMARIZED BY AREAS

Area	Plush	Titan	Tregal	Montcalm
A.....	24.2	23.5	23.0	24.8
B.....	27.7	26.2	25.9	28.0
C.....	30.4	27.4	28.1	32.4
D.....	36.2	32.6	32.8	37.0
E.....	29.1	25.6	26.8	27.9

AVERAGE HEIGHT OF PLANTS

Table No. 23 shows the average plant height of the varieties summarized by areas. **MONTCALM** showed superiority with an average of 29.8 inches for the entire Province. In four areas Montcalm proved taller than all other varieties but was slightly exceeded in Area "E" by Plush. The average height of **PLUSH** over the whole Province was 29.2 inches. It ranked second to Montcalm in four areas, and exceeded Titan and Tregal in every region. **TREGAL** showed a slight advantage over **TITAN** on a

provincial basis but generally there was little to choose between these two varieties. The average height of Tregal and Titan was 27.1 inches and 26.8 inches respectively.

**TABLE No. 24.—AVERAGE NUMBER OF DAYS FROM SOWING TO RIPENING
SUMMARIZED BY AREAS**

Area	Plush	Titan	Tregal	Montcalm
A.....	96.6	95.0	95.3	96.3
B.....	90.6	90.6	91.6	95.7
C.....	90.8	87.5	89.5	95.4
D.....	87.3	84.8	85.6	88.8
E.....	91.6	90.6	90.4	95.8

DAYS FROM SOWING TO RIPENING

Table No. 24 shows the number of days from sowing to ripening summarized by areas. An average of all barley tests in the Province shows that **TITAN** excelled in "earliness." Titan required 89.2 days to reach maturity. **TREGAL** ripened in 90.1 days, followed by **PLUSH**, which required an average of 90.8 days. **MONTCALM** was considerably later, ripening in 94.6 days. Titan excelled in three of the five areas. It tied with Plush for first place in Area "B" and proved slightly later than Tregal in Area "E" where the latter variety excelled. The most outstanding feature was the distinctly later ripening characteristic of Montcalm which matured later than all other varieties in four regions.



The barley test supervised by Ernest Unick of Hyas.

**TABLE No. 25.—AVERAGE STRAW STRENGTH OF PLANTS ON THE BASIS 10 (STRONG)
0 (WEAK), SUMMARIZED BY AREAS**

Area	Plush	Titan	Tregal	Montcalm
A.....	8.2	8.4	8.2	7.7
B.....	8.5	8.5	8.3	7.9
C.....	7.4	8.3	7.9	7.8
D.....	9.0	9.8	8.1	9.5
E.....	8.7	9.1	9.2	8.5

STRAW STRENGTH

The average straw strength of plants summarized according to areas is shown in Table No. 25. Straw strength was reported on the basis of 10-0. If all the plants in a plot stood straight and erect the figure 10 was used. If a number of heads tended to lean over or break off the figure 9 was used. Correspondingly lower figures were used to represent relatively lower strength until, in the case where all plants in a plot lay flat on the ground, the figure 0 was used. A general average of all tests in the Province shows that **TITAN** produced the strongest straw. **TREGAL** ranked second, closely followed by **PLUSH**. **MONTCALM** was slightly inferior to Plush. The superiority of Titan is demonstrated in the fact that it produced the strongest straw in Areas "A," "C" and "D." In Area "B" Titan tied with Plush for superiority but placed second to Tregal in Area "E."

TABLE No. 25.—AVERAGE NECK STRENGTH OF PLANTS ON BASIS 1 (STRONG), 2 (MEDIUM), 3 (WEAK)—SUMMARIZED BY AREAS

Areas	Plush	Titan	Tregal	Montcalm
A.....	1.6	1.8	1.9	1.8
B.....	2.0	1.9	2.1	2.2
C.....	1.6	1.4	1.7	1.7
D.....	2.1	1.7	2.3	2.5
E.....	1.5	1.5	1.3	1.5

NECK STRENGTH

Average neck strength of varieties summarized by areas is shown in Table No. 26. Generally, **TITAN** proved superior, followed by Plush, Tregal and Montcalm in that order. In three of the five regions under review, **TITAN** excelled in neck strength. Of the two remaining areas, **PLUSH** showed superiority in one and **TREGAL** ranked first in the other.

TABLE No. 27.—AVERAGE WEIGHT PER MEASURED BUSHEL SUMMARIZED BY AREAS

Area	Plush	Titan	Tregal	Montcalm
A.....	44.0	45.1	44.3	45.0
B.....	44.2	46.6	44.7	46.5
C.....	48.6	49.4	48.8	49.6
D.....	49.6	50.3	48.2	50.5
E.....	45.7	46.8	46.2	45.1

WEIGHT PER MEASURED BUSHEL

The average weight per measured bushel of each variety summarized according to areas is shown in Table No. 27. **TITAN** excelled with a provincial average of 47.6 pounds. **MONTCALM** followed Titan very closely, averaging 47.4 pounds per bushel. **TREGAL** ranked third with an average weight of 46.8 pounds. **PLUSH** proved inferior to all other varieties with an average of 46.4 pounds. In three of the five areas Titan outweighed the other varieties. In the two remaining areas Titan ranked second. Montcalm proved superior in Areas "C" and "D" which represent the eastern and northeastern sections of the Province. Tregal and Plush showed inferiority, ranking third or fourth in bushel weight throughout most areas.

TABLE No. 28.—COMMERCIAL GRADES IN PERCENTAGE

	1 C.W. 6-Row %	2 C.W. 6-Row %	3 C.W. 6-Row %	1 Feed %	2 Feed %	3 Feed %
Plush.....	—	—	—	60.0	23.6	16.4
Titan.....	—	—	—	76.3	14.5	9.2
Tregal.....	—	—	—	69.1	14.5	16.4
Montcalm.....	7.3	32.7	20.0	12.7	20.0	7.3

COMMERCIAL GRADES

Table No. 28 shows the commercial grades attained by each variety on a percentage basis. Grading was carried out according to the regulations established by the Board of Grain Commissioners. Under these regulations, the malting variety, Montcalm, is eligible to grade 1 C.W. 6-Row, but

the feed varieties, Plush, Titan and Tregal, cannot grade better than 1 Feed, regardless of bushel weight or appearance. **MONTCALM** graded well, 60 percent of the samples being placed in the 1, 2 and 3 C.W. 6-Row class. Of the feed barleys, **TITAN** showed superior grades, followed by **TREGAL** and **PLUSH** in that order.



The barley test of Louise Soyka, Spy Hill.

SUMMARIZATION ACCORDING TO AREAS

TABLE No. 29.—SUMMARIZED RESULTS FOR AREA "A"
(9 satisfactory tests)

	Plush	Titan	Tregal	Montcalm
Yield in bushels per acre.....	25.1	25.1	26.6	16.6
Height of plants in inches.....	24.2	23.5	23.0	24.8
Days from seeding to ripening.....	96.6	95.0	95.3	96.3
Straw strength.....	8.2	8.4	8.2	7.7
Neck strength.....	1.6	1.8	1.9	1.8
Bushel weight in pounds.....	44.0	45.1	44.3	45.0
Commercial grades in percentage:				
1 C.W. 6-Row.....	—	—	—	9
2 C.W. 6-Row.....	—	—	—	36
3 C.W. 6-Row.....	—	—	—	—
1 Feed.....	36	54	54	9
2 Feed.....	27	9	9	27
3 Feed.....	37	37	37	19

Necessary difference—3.9 bushels.

AREA "A"

Summarized results for Area "A" are shown in Table No. 29. **TREGAL** produced the highest yield, exceeding Montcalm by more than the necessary difference. It failed to significantly outyield Titan or Plush. Tregal tied with Titan in grading ability but showed no other outstanding characteristic. **TITAN** and **PLUSH** yielded equally well. Titan ripened comparatively early and produced the strongest straw. It outweighed all other varieties and graded well. Titan is officially recommended for use in this region. **PLUSH** showed good neck strength but ripened later than the other varieties. It was slightly inferior in bushel weight and grading ability. **MONTCALM** made a poor showing in this area, being definitely low in yield, weak in straw and comparatively late in ripening.

TABLE No. 30.—SUMMARIZED RESULTS FOR AREA "B"
(12 satisfactory tests)

	Plush	Titan	Tregal	Montcalm
Yield in bushels per acre.....	27.5	29.9	30.6	20.0
Height of plants in inches.....	27.7	26.2	25.9	28.0
Days from seeding to ripening.....	90.6	90.6	91.6	95.7
Straw strength.....	8.5	8.5	8.3	7.2
Neck strength.....	2.0	1.9	2.1	2.2
Bushel weight in pounds.....	44.2	46.6	44.7	46.5
Commercial grades in percentage:				
1 C.W. 6-Row.....	—	—	—	8
2 C.W. 6-Row.....	—	—	—	22
3 C.W. 6-Row.....	—	—	—	16
1 Feed.....	38	69	46	16
2 Feed.....	38	23	23	30
3 Feed.....	24	8	31	8

Necessary difference—3.1 bushels.

AREA "B"

Summarized results for Area "B" are shown in Table No. 30. **TREGAL** was high in yield. It failed to exceed Titan significantly but outyielded Montcalm by more than the necessary difference for the area. Tregal outyielded Plush by an amount equal to the necessary difference. In all other characteristics Tregal proved inferior to **TITAN**. The latter variety was superior in neck strength and bushel weight, and graded better than the other feed barleys. Although **PLUSH** equalled Titan and exceeded the other varieties in "earliness" and straw strength, it proved inferior in bushel weight and grades. **MONTCALM** showed satisfactory bushel weight and grades but its poor yield, late maturity and weakness of straw and neck indicate unsuitability for use in the area.

TABLE No. 31.—SUMMARIZED RESULTS FOR AREA "C"
(14 satisfactory tests)

	Plush	Titan	Tregal	Montcalm
Yield in bushels per acre.....	50.1	50.3	50.6	48.1
Height of plants in inches.....	30.4	27.4	28.1	32.4
Days from seeding to ripening.....	90.8	87.5	89.5	95.4
Straw strength.....	7.4	8.3	7.9	7.8
Neck strength.....	1.6	1.4	1.7	1.7
Bushel weight in pounds.....	48.6	49.4	48.8	49.6
Commercial grades in percentage:				
1 C.W. 6-Row.....	—	—	—	6
2 C.W. 6-Row.....	—	—	—	44
3 C.W. 6-Row.....	—	—	—	25
1 Feed.....	94	100	94	19
2 Feed.....	6	—	6	6

Necessary difference—3.5 bushels.

AREA "C"

TREGAL outyielded the other varieties but in no case was its advantage significant. In other characteristics Tregal gave an average performance. **TITAN** was second in yield. It excelled in "earliness," straw and neck strength and proved superior to the other feed varieties in bushel weight and grading ability. **PLUSH**, although slightly weak in straw, gave a satisfactory performance and is officially recommended. **MONTCALM** excelled in height and bushel weight, and graded well. It ripened considerably later than the feed varieties. Montcalm is officially recommended as a malting variety for this area.

TABLE No. 32.—SUMMARIZED RESULTS FOR AREA "D"
(6 satisfactory tests)

	Plush	Titan	Tregal	Montcalm
Yield in bushels per acre.....	47.1	44.6	48.2	40.5
Height of plants in inches.....	36.2	32.6	32.8	37.0
Days from seeding to ripening.....	87.3	84.8	85.6	88.8
Straw strength.....	9.0	9.8	8.1	9.5
Neck strength.....	2.1	1.7	2.3	2.5
Bushel weight in pounds.....	49.6	50.3	48.2	50.5
Commercial grades in percentage:				
1 C.W. 6-Row.....	—	—	—	—
2 C.W. 6-Row.....	—	—	—	67
3 C.W. 6-Row.....	—	—	—	33
1 Feed.....	83	100	100	—
2 Feed.....	17	—	—	—

No significant grain yield difference between varieties.

AREA "D"

Summarized results for Area "D" are shown in Table No. 32. Although the yield differences were not significant, **TREGAL** ranked first in this respect. It matured fairly early but showed slightly weaker straw and comparatively lower bushel weight than the other varieties. **PLUSH** produced a good yield and appeared quite satisfactory in other characteristics. It is officially recommended for use throughout this region. **TITAN** proved slightly lower yielding than the other feed varieties but matured early and exhibited good straw and neck strength. **MONTCALM** was outyielded by the feed varieties, proved later maturing and weaker in neck strength but had excellent bushel weight and graded very well. Montcalm is officially considered the best malting variety for the area.

TABLE No. 33.—SUMMARIZED RESULTS FOR AREA "E"
(9 satisfactory tests)

	Plush	Titan	Tregal	Montcalm
Yield in bushels per acre.....	22.8	24.2	27.0	16.2
Height of plants in inches.....	29.1	25.6	26.8	27.9
Days from seeding to ripening.....	91.6	90.6	90.4	95.8
Straw strength.....	8.7	9.1	9.2	8.5
Neck strength.....	1.5	1.5	1.3	1.5
Bushel weight in pounds.....	45.7	46.8	46.2	45.1
Commercial grades in percentage:				
1 C.W. 6-Row.....	—	—	—	11
3 C.W. 6-Row.....	—	—	—	33
1 Feed.....	45	56	56	11
2 Feed.....	33	44	33	33
3 Feed.....	22	—	11	12

Necessary difference—3.0 bushels.

AREA "E"

The summarized results for Area "E" are shown in Table No. 33. **TREGAL** was high in yield, exceeding Plush and Montcalm by more than the necessary difference. Tregal ripened early, showed excellent strength of straw and neck and produced good bushel weight. **TITAN** was slightly lower yielding than Tregal but the difference was not significant. It was high in bushel weight and proved slightly superior to the other feed varieties in commercial grades. In other characteristics it appeared quite satisfactory. **PLUSH** excelled in height but otherwise proved slightly inferior to Titan and Tregal. It has given an outstanding performance throughout this region in past years, however, and is officially recommended. **MONTCALM** was considerably lower in yield and somewhat later in ripening than any of the feed varieties. It should be stressed, however, that Montcalm is essentially a malting barley and is officially recommended for this purpose in Area "E."

TABLE No. 34

Individual Summarized Results of all Tests—Barley

WHEAT POOL DISTRICT 1

Area	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed-ing to ripen-ing	Plant height in inches	Straw strength	Neck strength	Pounds per meas-ured bushel	Com-mercial grades	Grading remarks
J. LESLIE BALL, ALIDA												
C.....	1	2	X	Plush.....	50.7	—	30	—	—	49	1 Feed	
				Titan.....	53.4	—	24	—	—	50	1 Feed	
				Tregal.....	59.2	—	26	—	—	49	1 Feed	
				Montcalm.....	45.4	—	32	—	—	48	2C.W.6-R.	

Necessary difference—7.0 bushels.

GORDON W. GUSTAFSON, GOODWATER

B.....	1	7	X	Plush.....	40.1	95	25	8.6	2.2	47	1 Feed	
				Titan.....	33.6	95	22	9.0	1.0	46	1 Feed	
				Tregal.....	38.7	95	21	9.0	1.2	48	1 Feed	
				Montcalm.....	31.5	95	28	8.6	2.2	47	3C.W.6-R.	

Necessary difference—3.8 bushels.

Tests discarded on account of damage by drought, pests, hail, or other causes.

C.....	1	3	X	Otto Neuman, Oxbow.								
C.....	1	10	X	Henri Gervais, Wauchope.								

WHEAT POOL DISTRICT 2

GERALD A. SCHMIDT, CONSTANCE

A.....	2	4	X	Plush.....	11.0	89	27	8.0	1.0	40	3 Feed	
				Titan.....	19.4	89	24	9.0	1.0	42	3 Feed	
				Tregal.....	18.0	89	20	10.0	1.0	41	3 Feed	
				Montcalm.....	4.4	89	28	9.0	1.0	34	3 Feed	

Necessary difference—2.7 bushels.

MAURICE R. VERHELST, LA FLECHE

A.....	2	6	X	Plush.....	21.2	93	24	9.6	2.0	49	1 Feed	
				Titan.....	26.2	92	21	9.6	2.8	51	1 Feed	
				Tregal.....	23.7	92	22	9.8	2.6	49	1 Feed	
				Montcalm.....	14.7	96	26	8.0	1.2	49	2C.W.6-R.	

Necessary difference—2.8 bushels.

ARTHUR SKARBON, LIMERICK

A.....	2	7	X	Plush.....	29.1	—	—	—	—	45	2 Feed	
				Titan.....	5.8	—	—	—	—	45	2 Feed	
				Tregal.....	30.4	—	—	—	—	44	2 Feed	
				Montcalm.....	5.1	—	—	—	—	48	2C.W.6-R.	

Samples bulked.

JOHN N. NEAMTU, WHEATSTONE

A.....	2	9	X	Plush.....	19.4	—	—	—	—	38	3 Feed	
				Titan.....	28.8	—	—	—	—	39	3 Feed	
				Tregal.....	25.4	—	—	—	—	38	3 Feed	
				Montcalm.....	9.1	—	—	—	—	39	3 Feed	

Damaged by grasshoppers.

WHEAT POOL DISTRICT 3

RALPH G. LETT, CADILLAC

A.....	3	9	X	Plush.....	9.3	—	—	10.0	1.0	45	2 Feed	
				Titan.....	6.9	—	—	8.0	3.0	46	1 Feed	
				Tregal.....	10.3	—	—	9.0	2.0	47	1 Feed	
				Montcalm.....	.9	—	—	9.0	3.0	*	(E) 2 Feed	

Necessary difference—3.4 bushels.

*—Insufficient to calculate bushel weight.

(E)—Estimated grade.

WHEAT POOL DISTRICT 4

Area	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed-ing to ripen-ing	Plant height in inches	Straw strength	Neck strength	Pounds per measured bushel	Com-mercial grades	Grading remarks
HAROLD P. JANECKE, RICHMOUND												
A.....	4	7	X	Plush.....	5.9	—	11	6.0	2.0	42	3 Feed	
				Titan.....	3.6	—	12	6.0	2.0	41	3 Feed	
				Tregal.....	4.6	—	10	6.0	2.0	42	3 Feed	
				Montcalm.....	5.5	—	11	6.0	2.0	44	2 Feed	
No significant grain yield difference between varieties.												

BRUCE A. WIDDIS, SCEPTRE												
A.....	4	9	X	Plush.....	26.0	—	20	8.6	1.6	49	1 Feed	
				Titan.....	27.1	—	20	8.4	1.6	50	1 Feed	
				Tregal.....	25.8	—	20	8.8	1.6	50	1 Feed	
				Montcalm.....	17.9	—	21	7.8	2.0	50	1C.W. 6-R.	
Necessary difference—3.8 bushels.												

Tests discarded on account of damage by drought, pests, hail, or other causes.												
A.....	4	1	X	Miss Margaret J. Beck, Sidewood.								

WHEAT POOL DISTRICT 5

NORMAN A. BECK, MAWER												
A.....	5	8	X	Plush.....	39.2	—	—	—	—	46	1 Feed	
				Titan.....	21.8	—	—	—	—	47	1 Feed	
				Tregal.....	27.4	—	—	—	—	48	1 Feed	
				Montcalm.....	18.1	—	—	—	—	48	2C.W. 6-R.	
Necessary difference—5.8 bushels.												

Tests discarded on account of damage by drought, pests, hail, or other causes.												
A.....	5	2	X	Paul M. Mang, Arbuthnot.								
A.....	5	10	X	Roy E. Weppler, Morse.								

WHEAT POOL DISTRICT 6

BARRY L. STRAYER, DRINKWATER												
B.....	6	6	X	Plush.....	45.3	97	36	9.0	2.0	46	1 Feed	
				Titan.....	48.1	95	34	8.0	2.0	50	1 Feed	
				Tregal.....	49.0	97	34	7.0	2.0	46	1 Feed	
				Montcalm.....	28.6	103	36	7.0	3.0	49	2C.W. 6-R.	
Necessary difference—4.0 bushels.												

MISS LILY M. KRAUSE, QU'APPELLE												
C.....	6	8	X	Plush.....	65.5	100	36	8.6	2.0	52	1 Feed	
				Titan.....	59.7	96	34	9.8	2.0	52	1 Feed	
				Tregal.....	57.8	98	33	8.8	2.0	53	1 Feed	
				Montcalm.....	54.0	100	43	9.4	1.4	51	1C.W. 6-R.	
No significant grain yield difference between varieties.												

Tests discarded on account of damage by drought, pests, hail, or other causes.												
A.....	6	4	X	Rudolf Beitel, Bayard.								

WHEAT POOL DISTRICT 7

WALTER L. SCEZPONSKI, HANDSWORTH												
C.....	7	5	X	Plush.....	34.0	86	30	4.0	1.0	46	1 Feed	
				Titan.....	31.5	82	26	5.0	2.0	49	1 Feed	
				Tregal.....	32.9	84	27	7.0	2.0	48	1 Feed	
				Montcalm.....	32.9	88	35	8.0	1.0	51	3C.W. 6-R.	G.
No significant grain yield difference between varieties.												

MISS LOUISE SOYKA, SPY HILL												
C.....	7	9	X	Plush.....	93.0	100	35	8.0	2.0	49	1 Feed	
				Titan.....	90.9	94	31	10.0	1.0	48	1 Feed	
				Tregal.....	95.0	97	33	8.0	2.0	49	1 Feed	
				Montcalm.....	95.5	103	38	8.0	3.0	50	2C.W. 6-R.	S. Pl.
No significant grain yield difference between varieties.												

WILHELM PAIDEL, KILLALEY												
C.....	7	11	X	Plush.....	44.5	96	29	9.0	1.6	47	1 Feed	
				Titan.....	50.4	94	27	9.8	1.4	50	1 Feed	
				Tregal.....	51.0	97	31	9.2	1.8	49	1 Feed	
				Montcalm.....	47.9	97	28	8.4	1.4	49	2C.W. 6-R.	W.S.
No significant grain yield difference between varieties.												

Tests discarded on account of damage by drought, pests, hail, or other causes.												
C.....	7	10	X	Charles J. Schlechter, Bangor.								

WHEAT POOL DISTRICT 8

Area	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed-ing to ripen-ing	Plant height in inches	Straw strength	Neck strength	Pounds per measured bushel	Com-mercial grades	Grading remarks
ARTHUR M. HABERSTOCK, CALDER												
C.....	8	1	X	Plush.....	58.2	74	35	7.0	1.0	45	2 Feed	
				Titan.....	52.8	74	29	8.0	1.0	46	1 Feed	
				Tregal.....	56.8	74	30	8.0	1.0	47	1 Feed	
				Montcalm.....	70.7	83	35	7.0	1.0	45	2 Feed	

No significant grain yield difference between varieties.

HARRY DE VRIES, ROKEYBY												
C.....	8	2	X	Plush.....	25.4	84	16	3.0	2.0	49	1 Feed	
				Titan.....	21.4	84	16	3.0	2.0	48	1 Feed	
				Tregal.....	21.5	84	18	3.0	2.0	48	1 Feed	
				Montcalm.....	10.0	98	20	3.0	2.0	49	2 C.W. 6-R.	

Necessary difference—3.6 bushels.

WILFRED FINK, R.R. No. 2, YORKTON												
C.....	8	4	X	Plush.....	46.1	86	36	9.0	1.0	50	1 Feed	
				Titan.....	42.1	76	36	9.0	1.0	51	1 Feed	
				Tregal.....	46.5	83	34	10.0	1.0	49	1 Feed	
				Montcalm.....	35.2	89	36	10.0	1.0	52	2 C.W. 6 R.	W.S.

Necessary difference—5.2 bushels.

GLEN A. BUCK, PREECEVILLE												
C.....	8	6	X	Plush.....	49.9	—	—	—	—	50	1 Feed	
				Titan.....	42.6	—	—	—	—	49	1 Feed	
				Tregal.....	44.9	—	—	—	—	50	1 Feed	
				Montcalm.....	47.4	—	—	—	—	52	2 C.W. 6-R.	Pl.

No significant grain yield difference between varieties.

ERNEST W. UNICK, HYAS												
C.....	8	9	X	Plush.....	—	—	—	—	—	51	1 Feed	
				Titan.....	—	—	—	—	—	53	1 Feed	
				Tregal.....	—	—	—	—	—	51	1 Feed	
				Montcalm.....	—	—	—	—	—	50	3 C.W. 6-R.	W.

Yields discarded. Badly damaged.

TOM BROWN, PELLY												
C.....	8	10	X	Plush.....	98.3	90	33	6.0	2.0	51	1 Feed	
				Titan.....	103.8	86	32	9.2	1.0	52	1 Feed	
				Tregal.....	81.4	88	30	5.8	2.8	51	1 Feed	
				Montcalm.....	97.9	92	35	5.2	2.0	52	1 Feed	W.,B.P

Necessary difference—11.2 bushels.

WHEAT POOL DISTRICT 9

EARL F. D. WARD, EARL GREY												
C.....	9	4	X	Plush.....	9.5	108	22	9.4	1.6	47	1 Feed	
				Titan.....	8.9	107	18	9.4	1.2	48	1 Feed	
				Tregal.....	10.1	107	20	9.6	1.4	45	2 Feed	
				Montcalm.....	5.3	110	17	8.8	2.0	46	3 C.W. 6-R.	

Damaged by rabbits.

ROBERT C. GRAHAM, HATFIELD												
B.....	9	6	X	Plush.....	16.5	—	14	8.2	1.2	40	3 Feed	
				Titan.....	19.0	—	14	7.4	1.6	42	3 Feed	
				Tregal.....	18.2	—	14	7.8	1.2	40	3 Feed	
				Montcalm.....	7.4	—	11	5.6	2.8	43	2 Feed	

Necessary difference—2.9 bushels.

DONALD N. McLEOD, ELFROS												
C.....	9	10	X	Plush.....	40.8	84	32	10.0	2.0	50	1 Feed	
				Titan.....	46.2	82	28	10.0	1.0	51	1 Feed	
				Tregal.....	50.8	83	27	10.0	1.0	49	1 Feed	
				Montcalm.....	38.1	94	37	10.0	2.0	51	2 C.W. 6-R.	S.G.

Necessary difference—3.9 bushels.

Tests discarded on account of damage by drought, pests, hail, or other causes.

B.....	9	7	X	Gavin F. Hamilton, Semans.								
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WHEAT POOL DISTRICT 10

Area	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripen- ing	Plant height in inches	Straw strength	Neck	Pounds per meas- ured bushel	Com- mercial grades	Grading remarks
DONALD STEVENS, AYLESBURY												
B.....	10	1	X	Plush.....	23.2	—	—	—	—	46	1 Feed	
				Titan.....	19.2	—	—	—	—	46	1 Feed	
				Tregal.....	22.4	—	—	—	—	46	1 Feed	
				Montcalm.....	23.0	—	—	—	—	46	3 C.W.	6-R.
Samples incomplete.												
ERNEST J. FRIESEN, TUGASKE												
B.....	10	2	X	Plush.....	25.9	96	30	8.2	2.0	41	3 Feed	
				Titan.....	30.1	97	29	8.5	2.7	44	2 Feed	
				Tregal.....	31.5	98	28	8.4	2.5	40	3 Feed	
				Montcalm.....	20.4	105	31	8.3	2.4	43	2 Feed	
Necessary difference—3.0 bushels.												
ROY F. WILSON, WISETON												
B.....	10	4	X	Plush.....	14.7	86	26	7.0	2.2	44	2 Feed	
				Titan.....	28.3	85	27	8.0	2.0	47	1 Feed	
				Tregal.....	21.7	85	27	6.8	2.8	44	2 Feed	
				Montcalm.....	5.3	85	26	7.0	2.0	48	2 C.W.	6-R.
Necessary difference—4.2 bushels.												
WESLEY J. WANKEL, LOREBURN												
B.....	10	6	X	Plush.....	48.5	102	33	9.4	2.0	52	1 Feed	
				Titan.....	44.5	101	32	9.4	1.8	51	1 Feed	
				Tregal.....	40.2	102	34	9.6	2.2	52	1 Feed	
				Montcalm.....	30.9	104	37	8.6	3.0	51	1 C.W.	6-R.
Necessary difference—8.6 bushels.												
BEVERLEY F. HANSON, TESSIER												
B.....	10	10	X	Plush.....	13.1	92	29	9.0	1.6	42	3 Feed	
				Titan.....	22.0	93	25	10.0	1.0	47	1 Feed	
				Tregal.....	22.0	93	26	10.0	1.8	45	2 Feed	
				Montcalm.....	5.3	93	30	9.4	2.0	40	3 Feed	
Necessary difference—2.8 bushels.												
WHEAT POOL DISTRICT 11												
WILFRED B. REED, HUGHTON												
B.....	11	2	X	Plush.....	48.4	86	35	9.4	1.0	50	1 Feed	
				Titan.....	38.8	86	32	9.0	1.0	52	1 Feed	
				Tregal.....	53.8	86	32	9.6	1.0	51	1 Feed	
				Montcalm.....	40.0	100	36	9.2	1.0	49	1 Feed	Pl.
Necessary difference—6.9 bushels.												
ROBERT L. SHIPLEY, Jr., MANTARIO												
A.....	11	4	X	Plush.....	89.8	108	35	6.2	2.0	48	1 Feed	
				Titan.....	78.5	104	35	9.0	1.0	49	1 Feed	
				Tregal.....	94.8	105	38	5.0	2.8	49	1 Feed	
				Montcalm.....	76.5	104	38	6.0	1.8	50	2 C.W.	W.S. 6-R.
No significant grain yield difference between varieties.												
LINDSAY P. GOOD, BROCK												
A.....	11	6	X	Plush.....	14.9	91	28	8.8	1.6	39	3 Feed	
				Titan.....	27.2	83	29	9.0	1.4	42	3 Feed	
				Tregal.....	23.0	90	28	8.8	1.4	38	3 Feed	
				Montcalm.....	10.0	—	25	8.2	1.8	43	2 Feed	
Necessary difference—2.7 bushels.												
RANDALL NELSON, RUTHILDA												
B.....	11	8	X	Plush.....	13.9	88	18	10.0	3.0	39	3 Feed	
				Titan.....	15.2	88	19	10.0	3.0	43	2 Feed	
				Tregal.....	15.4	87	18	10.0	3.0	39	3 Feed	
				Montcalm.....	8.5	93	15	8.8	2.0	45	2 Feed	
Necessary difference—2.4 bushels.												
MISS ELSIE SUNDBY, FUSILIER												
A.....	11	10	X	Plush.....	8.3	—	—	—	—	45	2 Feed	B.Pl.
				Titan.....	15.3	—	—	—	—	48	1 Feed	S. Pl.
				Tregal.....	11.8	—	—	—	—	46	1 Feed	S. Pl.
				Montcalm.....	1.7	—	—	—	—	*	(E)1 Fd.	Pl.

*—Insufficient to calculate bushel weight.

(E)—Estimated grade.

WHEAT POOL DISTRICT 12

Area	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed-ing to ripen-ing	Plant height in inches	Straw strength	Neck strength	Pounds per measured bushel	Com-mercial grades	Grading remarks
LAURENCE W. FEIL, CACTUS LAKE												
B.....	12	6	X	Plush.....	31.5	80	36	8.4	2.2	43	2 Feed	
				Titan.....	42.6	82	35	7.6	2.2	45	2 Feed	
				Tregal.....	40.1	86	33	7.0	2.2	44	2 Feed	
				Montcalm.....	34.2	91	35	8.4	2.4	50	1 Feed	B.Pl.
No significant grain yield difference between varieties.												

JAMES E. NELSON, PRONGUA

E.....	12	10	X	Plush.....	29.4	82	34	10.0	2.0	50	1 Feed	
				Titan.....	30.2	82	35	9.0	2.0	51	1 Feed	
				Tregal.....	30.7	82	35	9.0	2.0	50	1 Feed	
				Montcalm.....	23.1	86	36	8.0	1.0	47	3 C.W.	6-R.

Necessary difference—4.3 bushels.

Tests discarded on account of damage by drought, pests, hail, or other causes.

E.....	12	2	X	Henry A. Schmidt, Lizard Lake.								
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WHEAT POOL DISTRICT 13

BERNHARD J. THIESSEN, R.R. No. 4, DUNDURN

B.....	13	3	X	Plush.....	15.2	87	23	8.6	2.2	43	2 Feed	
				Titan.....	14.3	85	19	8.0	2.4	46	1 Feed	
				Tregal.....	12.5	89	19	8.2	2.8	42	3 Feed	
				Montcalm.....	8.2	88	25	8.0	2.4	45	2 Feed	

Necessary difference—2.8 bushels.

WILLIAM PROCYSHEN, BLUCHER

B.....	13	4	X	Plush.....	17.4	88	27	6.6	2.0	43	2 Feed	
				Titan.....	22.2	90	26	6.6	2.0	46	1 Feed	
				Tregal.....	24.7	90	25	5.6	2.0	46	1 Feed	
				Montcalm.....	19.4	96	26	6.0	1.8	48	2 C.W.	6-R.

No significant grain yield difference between varieties.

JOSEPH A. KRIEGER, CUDWORTH

D.....	13	9	X	Plush.....	18.7	90	30	—	3.0	44	2 Feed	
				Titan.....	25.7	90	30	—	3.0	48	1 Feed	
				Tregal.....	21.4	90	30	—	3.0	47	1 Feed	
				Montcalm.....	14.8	90	30	—	3.0	46	3 C.W.	6-R.

No significant grain yield difference between varieties.

JEROME BOEHM, LAKE LENORE

C.....	13	11	X	Plush.....	21.0	—	—	—	—	46	1 Feed	
				Titan.....	22.6	—	—	—	—	48	1 Feed	
				Tregal.....	26.2	—	—	—	—	48	1 Feed	
				Montcalm.....	26.4	—	—	—	—	49	1 Feed	G.

Necessary difference—2.4 bushels.

WHEAT POOL DISTRICT 14

RONALD J. W. ENRIGHT, LINTLAW

C.....	14	1	X	Plush.....	26.5	—	—	—	—	47	1 Feed	
				Titan.....	32.6	—	—	—	—	47	1 Feed	
				Tregal.....	28.2	—	—	—	—	46	1 Feed	
				Montcalm.....	28.7	—	—	—	—	50	3 C.W.	W.S. 6-R.

No significant grain yield difference between varieties.

ROY AMUNDSON, NAICAM

C.....	14	3	X	Plush.....	48.3	—	—	—	—	48	1 Feed	
				Titan.....	55.0	—	—	—	—	48	1 Feed	
				Tregal.....	56.4	—	—	—	—	49	1 Feed	
				Montcalm.....	43.7	—	—	—	—	49	1 Feed	W., Pl.

No significant grain yield difference between varieties.

RONALD CHOQUETTE, PERIGORD

D.....	14	5	X	Plush.....	12.4	97	—	—	—	47	1 Feed	
				Titan.....	14.3	97	—	—	—	47	1 Feed	
				Tregal.....	16.7	97	—	—	—	49	1 Feed	
				Montcalm.....	6.2	97	—	—	—	47	3 C.W.	6-R.

Necessary difference—3.5 bushels.

LYLE D. FETTES, TISDALE

D.....	14	7	X	Plush.....	70.6	80	36	10.0	—	54	1 Feed	
				Titan.....	65.7	80	36	10.0	—	52	1 Feed	
				Tregal.....	86.1	80	36	10.0	—	51	1 Feed	
				Montcalm.....	59.8	84	36	10.0	—	53	2 C.W.	St., S. 6-R. Pl.

Necessary difference—8.2 bushels.

Wheat Pool District 14—Continued

Area	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Days seed- ing to ripen- ing	Plant height in inches	Straw strength	Neck strength	Pounds per meas- ured bushel	Com- mercial grades	Grading remarks
MARTIN MARCHILDON, ZENON PARK												
D.....	14	10	X	Plush.....	68.4	81	40	—	—	49	1 Feed	
				Titan.....	62.2	71	33	—	—	52	1 Feed	
				Tregal.....	61.7	74	37	—	—	51	1 Feed	
				Montcalm.....	59.9	84	40	—	—	52	2 C.W.	W.S.
No significant grain yield difference between varieties.												6-R.

WHEAT POOL DISTRICT 15

SAM SOLODUCHA, STEEP CREEK												
D.....	15	3	X	Plush.....	73.6	90	40	8.6	1.6	53	1 Feed	S.E.
				Titan.....	63.5	85	35	10.0	1.0	51	1 Feed	S.E.
				Tregal.....	66.1	87	35	9.4	1.2	52	1 Feed	S.E.
				Montcalm.....	67.0	92	42	9.8	1.6	54	2 C.W.	G.
No significant grain yield difference between varieties.												6-R.

MELVIN R. SKAROS, CANWOOD												
E.....	15	7	X	Plush.....	11.0	89	26	8.0	1.0	45	2 Feed	
				Titan.....	9.5	89	23	10.0	1.0	46	1 Feed	
				Tregal.....	11.5	89	24	10.0	1.0	46	1 Feed	
				Montcalm.....	2.2	96	22	10.0	2.0	43	2 Feed	
Necessary difference—1.9 bushels.												

ROLAND A. FREMONT, ALINGLY												
E.....	15	9	X	Plush.....	13.4	—	—	—	—	46	1 Feed	
				Titan.....	14.5	—	—	—	—	44	2 Feed	
				Tregal.....	18.2	—	—	—	—	45	2 Feed	
				Montcalm.....	12.3	—	—	—	—	46	3 C.W.	
Necessary difference—2.9 bushels.												6-R.

KENNETH D. MUNRO, GARRICK												
D.....	15	11	X	Plush.....	39.1	86	35	8.4	1.8	51	1 Feed	
				Titan.....	36.3	86	29	9.4	1.0	52	1 Feed	
				Tregal.....	37.4	86	26	5.0	2.8	51	1 Feed	
				Montcalm.....	35.2	86	37	8.8	2.8	51	2 C.W.	W.
No significant grain yield difference between varieties.												6-R.

Tests discarded on account of damage by drought, pests, hail, or other causes.

E.....	15	5	X	Tom C. W. Bond, Leask.								
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WHEAT POOL DISTRICT 16

GEORGE M. SYMCHYCH, HAFFORD												
E.....	16	2	C	Plush.....	17.8	83	22	9.0	1.0	42	3 Feed	
				Titan.....	22.9	81	20	8.0	2.0	44	2 Feed	
				Tregal.....	21.3	84	19	9.0	1.0	43	2 Feed	
				Montcalm.....	11.7	88	17	7.0	2.0	40	3 Feed	
Necessary difference—2.5 bushels.												

RAYMOND STOKALKO, WHITKOW												
E.....	16	3	X	Plush.....	20.6	98	23	8.4	1.0	47	1 Feed	
				Titan.....	17.5	98	21	9.6	1.0	48	1 Feed	
				Tregal.....	18.7	98	22	9.2	1.0	48	1 Feed	
				Montcalm.....	7.3	98	24	9.0	1.0	44	2 Feed	
Necessary difference—2.5 bushels.												

LIONEL BLANCHETTE, JACK FISH LAKE												
E.....	16	4	X	Plush.....	10.6	—	—	8.0	2.0	42	3 Feed	
				Titan.....	13.7	—	—	8.0	2.0	44	2 Feed	
				Tregal.....	14.4	—	—	8.0	2.0	42	3 Feed	
				Montcalm.....	5.4	—	—	8.0	2.0	44	2 Feed	
Necessary difference—1.3 bushels.												

Wheat Pool District 16—Continued

Area	Dist.	Sub- Dist.	Test desig- nation	Varieties	Yield bus. per acre	Days seed- ing to ripen- ing	Plant height in inches	Straw strength	Neck strength	Pounds per meas- ured bushel	Com- mercial grades	Grading remarks
HUGH B. BULLEN, REX												
E.....	16	6	X	Plush.....	43.9	99	32	—	—	45	2 Feed	
				Titan.....	43.7	99	29	—	—	46	2 Feed	M.,S.E
				Tregal.....	46.6	94	28	—	—	45	2 Feed	
				Montcalm.....	30.8	104	35	—	—	47	3 C.W.	6-R.
Necessary difference—4.7 bushels.												
RONALD H. PRESTON, SPRUCE LAKE												
E.....	16	8	X	Plush.....	31.1	98	36	—	—	45	2 Feed	
				Titan.....	35.9	98	24	—	—	47	1 Feed	
				Tregal.....	45.4	98	30	—	—	46	1 Feed	
				Montcalm.....	20.0	105	30	—	—	45	2 Feed	
Necessary difference—7.9 bushels.												
GEORGE WILLOCK, MILDRED												
E.....	16	10	X	Plush.....	27.7	92	31	9.0	2.0	49	1 Feed	
				Titan.....	29.7	87	27	10.0	1.0	51	1 Feed	
				Tregal.....	36.7	88	30	10.0	1.0	51	1 Feed	
				Montcalm.....	33.3	94	31	9.0	1.0	50	1 C.W.	6-R.
Necessary difference—5.0 bushels.												

CONCLUSIONS

The success of the 1946 variety testing programme has been due, in no small part, to the fact that practically every local condition which may influence the performance of a variety has been represented by the results as a whole. Crop production was subject to many major hazards. Throughout much of the east, moisture was sufficient. In many regions of the centre lack of rainfall curtailed production and in other areas, particularly in parts of the south-centre and southwest, insufficient precipitation resulted in almost complete failures. In the southwest, parts of the south-centre and throughout much of the centre, sawfly infestation constituted a major threat and before harvest was completed these destructive insects had taken a heavy toll. In parts of the centre and throughout much of the northwest and north-centre, below freezing temperatures which were experienced on the mornings of July 23rd and 24th when much of the crop was in the blossom stage, caused considerable havoc. Thus it would appear that the varieties tested in 1946 were subjected to a greater number of hazards than could be expected in a normal year. The fact that Junior Co-operators conducted tests in all parts of the Province has resulted in the gathering of complete data covering the reactions of each variety to the different climatic conditions and the ability of these varieties to withstand the sawfly menace. In addition to supplying representative data an opportunity has been provided for the youth of the Province to study the comparative behaviours of varieties and to realize the importance of choosing a suitable variety for commercial use. The sowing and supervision of a variety test is in itself of considerable educational value. Close attention to detail and ability to follow written instructions are essential to the success of the work. The Junior Co-operators selected in 1946 conducted their tasks in a manner which showed both enthusiasm and efficiency.

Although, in some areas severe weather conditions resulted in a few failures, the very high percentage of satisfactory tests provided much valuable information. The results of the new wheat varieties introduced this year will be of interest to growers throughout Western Canada. In view of the emphasis which is now being placed on coarse grains production the barley project, which supplied additional data to that collected in 1945, is of particular importance.

To the farmer, these tests are of assistance in choosing suitable varieties for use in his district. To the scientist and plant breeder, they furnish reliable information from areas where no other experimental work of this nature is conducted. In this regard, it may be mentioned that the results of the Wheat Pool variety tests are used by the Saskatchewan Cereal Variety Committee, together with data from the University and the Experimental Farms, in formulating varietal recommendations.

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